

**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION 2022-2023**

**Class: XII**  
**Subject: Computer Science (083)**

**Maximum Marks: 70**  
**Time: 3 Hours**

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**General Instructions:**

1. *This question paper contains two Parts A and B and 7 pages. Each part is compulsory.*
2. **Part-A has 2 sections:**
  - a. *Section – I has 21 short answer questions of 1 mark each from which 15 questions to be answered in one word or one line or select the appropriate answer.*
  - b. *Section – II has two case studies questions. Each case study has 4 case-based subparts. An examinee is to attempt any 4 out of the 5 subparts.*
3. **Part - B is Descriptive Paper and has three sections**
  - a. *Section-I is consists of 10 short answer questions of 2 marks each in which two question have internal options.*
  - b. *Section-II is consists of 4 long answer questions of 3 marks each in which two questions have internal options.*
  - c. *Section-III is consists of 3 very long answer questions of 5 marks each in which one question has internal option.*

**PART-A**

**Section-I**

*Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.*

- |   |  |   |
|---|--|---|
| 1 | Name the Python Library modules which need to be imported to invoke the following functions:   | 1 |
|   | (i) <code>sin( )</code> (ii) <code>randint ( )</code>  |   |
| 2 | Find the valid identifier from the following:<br>a) <code>My.File</code> b) <code>My-File</code> c) <code>2um</code> d) <code>pie</code>                           | 1 |
| 3 | Existing data in tables can be changed with _____command.  | 1 |
| 4 | What does the following expression evaluate:<br><code>L=["These",["are","a"],["few", "words"], "that", "we", "will", "use"]</code><br><code>print(L[2][1:])</code> | 1 |
| 5 | Write the output of the following:<br><code>def fn(n1, n2=7):</code><br><code>n1=n1+n2</code><br><code>print(n1)</code><br><code>fn(3, 9)</code>                   | 1 |
| 6 | What are the processes of giving comments in a python program?   | 1 |
| 7 | Define serialisation with respect to file handling.  | 1 |

- 8 What is the use of COMMIT command in Database? 1
- 9 Write the output of the following : 1
- ```
print(math.floor(-4.5))
```
- 10 The function used to find the current file pointers location is \_\_\_\_\_. 1
- 11 What will be the output of the given statements? 1
- ```
Dict={'Dhoni':7,'Kohli':8,'Sachin':10}
print(Dict.keys())
```
- i) dict\_keys(['Dhoni', 'Sachin'])
- ii) dict\_keys(['Dhoni', 'Kholi', 'Sachin'])
- iii) dict\_values([7, 18, 10])
- iv) dict\_values([0, 1, 2])
- 12 The \_\_\_\_\_ clause is used to specify filtering conditions in groups. 1
- 13 What is the default return value for a function that does not return any value explicitly? 1
- 14 Write the type of token from the following: 1
- i) if
- ii) roll\_no
- 15 What is the function of csv.reader () object? 1
- 16 To run an SQL query from within Python, we may use <cursor> . \_\_\_\_\_ method ( ) 1
- 17 Can sequence operators such as slicing and concatenation be applied to dictionaries? 1
- Why
- 18 What is the significance of GROUP BY clause in a SQL query? 1
- 19 Predict the output of the following: 1
- ```
x="apple,pear,peach,grape"
y=x.split(',')
for z in y:
    if z<'m':
        print(str.lower(z))
    else:
        print(str.upper(z))
```
- 20 Rahul has created a table named EMP inside the database SCHOOL. He wants to create a new table inside CLASS database. Help him to write the command to change the database from SCHOOL to CLASS. 1
- 21 Evaluate the following postfix notation of expression: 1
- ```
50,60,+,20,10,-,*
```

## Section-II

**Both the Case study based questions are compulsory.**

**Attempt any 4 sub parts from each question. Each question carries 1 mark**

- 22 Sinchan is making a software on “Countries & their Capitals” in which various records are to be stored/retrieved in CAPITAL.CSV data file. It consists some records (Country & Capital). He has written the following code in python. As a programmer, you have to help him to successfully execute the program. 4

```
import _____ # Statement-1

defAddNewRec(Country,Capital):
    f=open(“CAPITAL.CSV”,_____) # Statement-2
    fwriter=csv.writer(f)
    fwriter.writerow([Country,Capital])
    _____ # Statement-3

defShowRec():
    _____(“CAPITAL.CSV”,”r”) as NF: # Statement-4
    NewReader=csv._____(NF) # Statement-5
    for rec in NewReader:
        print(rec[0], “#”, rec[1])
```

AddNewRec(“INDIA”, “NEW DELHI”)

AddNewRec(“CHINA”, “BEIJING”)

ShowRec()

- a) Which module should be imported in Statement-1.  
b) Which file mode to be passed to add new record in Statement-2.  
c) What should be written in Statement-3 to close the file?  
d) What should be written in Statement-4 to open the file?  
e) Which function to be used in Statement-5 to read the data from a csv file.
- 23 Ramesh is working with an IT Company and his DBA asked him to create the following SCHOOL table

**Table : SCHOOL**

ADMN NO	NAME	DOB	GENDER	ADDRESS
4876	RANJIT SINGH	1991-09-01	MALE	ASANSOL
5236	RAHUL TIWARY	1990-12-15	FEMALE	DURGAPUR
1256	SONU KUMAR	1987-09-04	MALE	RANIGANJ
2358	ANIL KUMAR	1984-10-19	MALE	MIDNAPORE
4458	PRIYA BHAVNA	1986-11-14	FEMALE	RANIGANJ
3258	SULEKHA PIT	1987-03-31	MALE	DURGAPUR
6233	YOGESH KUMAR	1985-06-23	FEMALE	DURGAPUR

- i) Suggest how he will create a new database named SCHOOLINFO.  
ii) Suggest the query to create the table SCHOOL given above.  
iii) What is the degree and cardinality of the above table.  
iv) Ramesh wants to add Mobile as a new column to the table SCHOOL.  
Which code he will write to add the column.  
v) Ramesh wants to display the structure of the table i.e, name of the attributes and their respective data types that he has used in the table.  
Write the query to display the same.

**Part-B**  
**Section: I**

- 24 Which string method is used to implement the following: 2
- a) To count the number of characters in the string.
  - b) To change the first character of the string in capital letter.
- 25 Find the output for the following code given below: 2
- ```
def add(i):  
    if(i*3%2==0):  
        i*=i  
    else:  
        i*=4  
    return i  
a=add(10)  
print(a)
```
- 26 Differentiate between DDL & DML commands? 2
- 27 Find the errors from the following code: 2
- ```
if (a>b)  
    print a:  
else if (a<b)  
    print b:  
else  
    print both are equal
```
- 28 Find the output for the following codes given below: 2
- ```
def func(b):  
    global x  
    print('Global x=', x)  
    y = x+b  
    x = 7  
    z = x-b  
    print('Local x = ',x)  
    print('y = ',y)  
    print('z = ',z)  
x=5  
func(10)
```
- OR**
- ```
def fun1(x, y):  
    x = x+y  
    y = x-y  
    x = x-y  
    print('a=',x)  
    print('b=',y)  
a = 5  
b = 3  
fun1(a,b)
```

- 29 Evaluate the following postfix notation of expression by showing the status of stack after each step. 2

True, False, NOT, AND, True, True, AND, OR

**OR**

Convert (True And False) OR (False And True) into postfix form showing stack status after every step

- 30 Write a program in python to count those lines from the file “div.txt” which are starting from ‘T’ or ‘M’. 2
- 31 What are the possible outcome(s) executed from the following code? Also, specify the maximum and minimum values that can be assigned to variable SEL. 2

```
import random
SEL=random.randint (0, 3)
ANIMAL = ["DEER", "MONKEY", "COW", "KANGAROO"];
for A in ANIMAL:
    for AA in range (1, SEL):
        print (A, end = "")
    print()
```

(i)	(ii)	(iii)	(iv)
DEERDEER	DEER	DEER	DEER
MONKEYMONKEY	MONKEY	MONKEY	MONKEYMONKEY
COWCOW	MONKEYCOW	COW	KANGAROOKANGAROO
KANGAROOKANGAROO		KANGAROO	

- 32 Differentiate between fetchmany() and fetchall() methods in python. 2
- 33 Write any four advantages of DBMS. 2

### Section: II

- 34 What will be the output of the following program: 3

```
def change(Msg):
    Msg1=""
    for i in range(0,len(Msg)):
        if Msg[i].isupper():
            Msg1=Msg1+Msg[i].lower()
        elif i%5==0:
            Msg1=Msg1+'$'
        else:
            Msg1=Msg1+Msg[i].upper()
    print(Msg1)
Msg="Python_Program"
change(Msg)
```

- 35 Write a program in Python to read the entire content from file “data.txt” and copy only those words in separate lines to “story.txt” which are starting from lower case alphabets . 3

**OR**

Write a program in Python to read the entire content from file “data.txt” and copy only those words to “story.txt” which start from vowels.

- 36 Rohan has a list containing 10 integers. You need to help him create a program with separate user defined functions to perform the following operations based on this list. 3
- Traverse the content of the list and push the even numbers into a stack.
  - Pop and display the content of the stack.

For Example: If the sample Content of the list is as follows:

N=[12, 13, 34, 56, 21, 79, 98, 22, 35, 38]

Sample Output of the code should be: 38 22 98 56 34 12

**OR**

Write a function in python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package. Each Package contains the information like PackageID and PackageDescription,. Considering the above operations to act as push and pop operations of the Stack data structure.

- 37 i) Observe the following table carefully and write the names of the most appropriate columns, which can be considered as (i) candidate keys and (ii) primary key : 1

Id	Item	Code	Qty	Price	Transaction Date
1001	Plastic Folder 14''	C11	100	3400	2014-12-14
1004	Pen Stand Standard	C12	200	4500	2015-01-31
1005	Stapler Mini	C13	250	1200	2014-12-14
1009	Punching Machine Small	C14	200	1400	2015-03-12
1003	Stapler Big	C15	100	1500	2015-02-02

ii) Differentiate between delete and drop commands in sql with examples.

2

### Section: III

- 38 Consider a binary file “data.dat” which stores the record of “Hotel” in the form of list containing Room\_no, Price, Room\_type. 5

Do the following task in a file

- Write a function addrec() to add a record in a file.
- Write a function disp() to display all the records from the file.

**OR**

Write a program to create a csv file named as “Employee.csv” to store the information of five employees (Empid, Ename, Department, Salary). Read the content from the file, count and display number of employees getting salary more than 20,000.

- 39 Consider the following table EMPLOYEE and SALGRADE and answer following questions:

**Table: EMPLOYEE**

ECODE	NAME	DESIG	SGRADE	DOJ	DOB
101	Abdul Ahmad	EXECUTIVE	S03	23-Mar-2003	13-Jan-1980
102	Ravi Chander	HEAD-IT	S02	12-Feb-2010	22-Jul-1987
103	John Ken	RECEPTIONIST	S03	24-Jan-2009	24-Feb-1983
104	Nazar Ameen	GM	S02	11-Aug-2006	03-Mar-1984
105	Priyam Sen	CEO	S01	29-Dec-2004	19-Jan-1982

**Table: SALGRADE**

SGRADE	SALARY	HRA
S01	56000	18000
S02	32000	12000
S03	24000	8000

**Write SQL commands for the following statements:**

- To display the details of all EMPLOYEES in descending order of DOJ.
- To display NAME and DESIG of those EMPLOYEES whose SGRADE is either S02 or S03.
- To display the content of all the EMPLOYEES , whose DOJ is in between 09-Feb-2006 and 08-Aug-2009 (Both dates included).
- To add a new row in EMPLOYEE table with the following informations.  
109, 'Harish Roy', 'S02', '09-Sep-2007', '21-Apr-1983'
- To change the DESIG from GM to General Manager of the EMPLOYEE whose ECODE is 104

40 Consider the following DEPT and EMPLOYEE tables and find outputs for the queries

5

**Table : DEPT**

DCODE	DEPARTMENT	LOCATION
D01	INFRASTRUCTURE	DELHI
D02	MARKETING	DELHI
D03	MEDIA	MUMBAI
D05	FINANCE	KOLKATA
D04	MARKETING	MUMBAI

**Table : EMPLOYEE**

ENO	NAME	DOJ	DOB	GENDER	DCODE
1001	George K	2013-09-02	1991-09-01	MALE	D01
1002	Ryma Sen	2012-12-11	1990-12-15	FEMALE	D03
1003	Mohitesh	2013-02-03	1987-09-04	MALE	D05
1007	Anil Jha	2014-01-17	1984-10-19	MALE	D04
1004	Manila Sahai	2012-12-09	1986-11-14	FEMALE	D01
1005	R SAHAY	2013-11-18	1987-03-31	MALE	D02
1006	Jaya Priya	2014-06-09	1985-06-23	FEMALE	D05

Note : DOJ refers to date of joining and DOB refers to date of Birth of employees.

- SELECT COUNT(\*),DCODE FROM EMPLOYEE GROUP BY DCODE  
HAVING COUNT(\*)>1;
- SELECT DISTINCT DEPARTMENT FROM DEPT;
- SELECT NAME,DEPARTMENT FROM EMPLOYEE E,DEPT D  
WHERE E.DCODE=D.DCODE AND ENO<1003;
- SELECT MAX(DOJ), MIN(DOB) FROM EMPLOYEE;
- SELECT COUNT(\*) FROM EMPLOYEE WHERE GENDER= 'FEMALE'  
AND DOJ > '1986-01-01';

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# D.A.V. INSTITUTIONS, WEST BENGAL ZONE

## MID TERM EXAMINATION

SESSION: 2022 – 2023

CLASS: XII

MAXIMUM MARKS: 70

SUBJECT: BIOLOGY

TIME: 3 HOURS

### General Instructions:-

- All questions are compulsory
  - Section A has 08 questions of 01 mark each.
  - Section B has 07 short answer type questions of 02 marks each
  - Section C has 11 long answer type questions of 03 marks each
  - Section D has 02 long answer question of 05 marks
  - Section E has 01 case based question of 05 marks.
- 

### SECTION – A

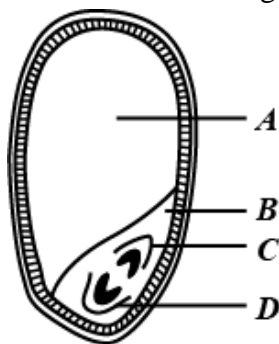
- 01 In the following question, a statement of Assertion (A) is given and followed by 01  
corresponding statement of Reason (R). Of the statements, mark the correct answer as  
a) If both A and R are true and R is the correct explanation of the A  
b) If both A and R are true, but R is not the correct explanation of the A  
c) If A is true, but R is false  
d) If A is false, but R is true  
Assertion (A) Parturition is induced by a complex neuroendocrine mechanism.  
Reason (R) At the end of gestation period, the maternal pituitary releases prolactin which causes uterine contractions.
- 02 If the sequence of nitrogen bases of the coding strand of DNA in a transcription unit is 01  
5' - A T G A A T G - 3'  
the sequence of bases in its RNA transcript would be  
a) 5' - A U G A A U G - 3'  
b) 5' - U A C U U A C - 3'  
c) 5' - C A U U C A U - 3'  
d) 5' - G U A A G U A - 3'
- 03 In the following questions, a statement of assertion is followed by a statement of reason. 01  
Mark the correct choice as:  
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.  
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.  
(c) If Assertion is true but Reason is false.  
(d) If both Assertion and Reason are false.  
Assertion: Cyclosporin A is blood cholesterol lowering agent.  
Reason: Cyclosporin is produced by *Monascus purpureus*.
- 04 The term “The Evil Quartet” is related with 01  
a) Four major causes of forest loss  
b) Four major causes of population explosion  
c) Four major causes of air pollution  
d) Four major causes of biodiversity losses



- 05 Given below are the stages in human reproduction. 01  
 . Write them in correct sequential order.  
 Insemination, Gametogenesis, Fertilisation, Parturition, Gestation, Implantation.
- 06 If a species contains 40% guanine in its DNA, what is the percentage of Cytosine that it 01  
 . would contain?
- 07 Why are fruit juices bought from the market clearer as compared to those made at home? 01
- 08 About 200 species of cichlid fishes become extinct when a particular fish was introduced in 01  
 . lake Victoria of Africa. Name the invasive fish.

### SECTION: B

- 09 Arrange the following structures in the order they appear from inner side to outer side of a 02  
 . typical ovule  
 Nucellus, Outer integument, Inner integument, Embryo sac.  
 Name the structure which connects ovule and placenta.
- 10 Identify the parts labelled as A to D in structure of seed given below: 02  
 .



- 11 After every medical examination a healthy couple came to know that both of them are unable 02  
 . to produce functional gametes and should look for an ART. Name the ART and the procedure involved that you can suggest to them to bear a child.
- 12 The child has a blood group of O. If the father has blood group A and mother has blood 02  
 . group B, work out the genotypes of the parents and the possible genotypes of the other offsprings.
- 13 How is the child affected, if it has grown from the zygote formed by an XX-egg fertilized by 02  
 . a Y-carrying sperm? What do you call this abnormality?

OR

A couple with normal vision bears a colour blind child. Work out the cross to show how it is possible and mention the sex of the affected child.

- 14 02  
 .
- 
- The image shows four finches with different beak shapes and colors. Finch 1 has a large, powerful beak. Finch 2 has a medium-sized beak. Finch 3 has a small, pointed beak. Finch 4 has a very small, pointed beak.

How did Darwin explain the existence of different varieties of finches on the Galapagos Islands?

- 15 Pyramid of energy is always up right, can never be inverted, but pyramid of biomass can be 02  
 . inverted. Explain with example.

## SECTION: C

16 List three strategies that a bisexual chasmogamous flower can evolve to prevent self-pollination. 03

17 A mature embryo sac in a flowering plant may possess 7-cells, but 8-nuclei. Explain with the help of a diagram only. 03

18 With the help of a schematic representation describe the process of spermatogenesis. 03

OR

With the help of a schematic representation describe the process of oogenesis.

19 (i) Name any two copper releasing IUDs. 03

ii) Explain how do they act as effective contraceptives in human females?

20 Prakash is unable to work out for XO-XX type of sex determination .Help him to determine XO-XX type of sex determination with a suitable example . 03

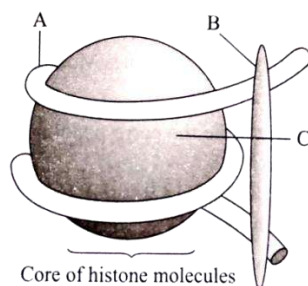
21 i) Explain the phenomenon of multiple allelism and codominance taking ABO blood groups as an example. 03

(ii) What are the phenotypes of the following?

a)  $I^A i$  (b) ii

22 What do A, B, and C represent in the diagram? 03

What is the essence of this diagram?



23 Hardy-Weinberg Principle is stated in the following algebraic equation 03

$$P^2 + 2pq + q^2 = 1$$

i) State what do 'p' and 'q' denote in the equation.

ii) State Hardy-Weinberg principle as indicated in the equation?

iii) What would you interpret if the value of '1' in the equation gets deviated?

24 03

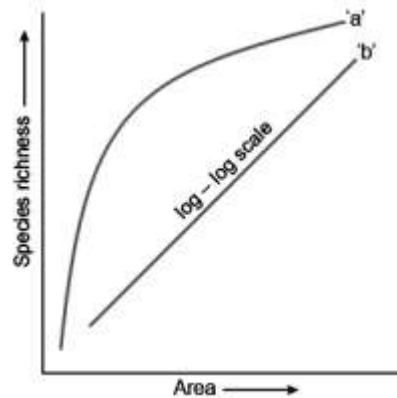
SL NO	NAME OF ORGANISM	COMMERCIAL PRODUCT	APPLICATION
1.	<i>Penicillium notatum</i>	Penicillin	(a)
2.	(b)	Lactic Acid	Making Curd
3.	<i>Streptococcus</i>	Clot buster enzyme	(c)
4.	<i>Trichoderma polysporum</i>	(d)	Immuno suppressive agent
5.	<i>Saccharomyces cerevisiae</i>	Ethanol	(e)
6.	(f)	Swiss cheese	Food product

Identify a, b, c, d, e & f.

- 25 The rate of decomposition of detritus is affected by the abiotic factors like availability of oxygen, pH of the soil substratum, temperature etc. Explain. 03
- 26 Differentiate between in situ and ex situ conservation. 03

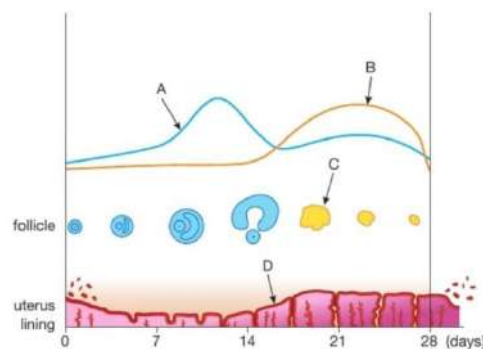
OR

- What is area species relationship ?
- Write the equation for “a” and “b”



### SECTION: D

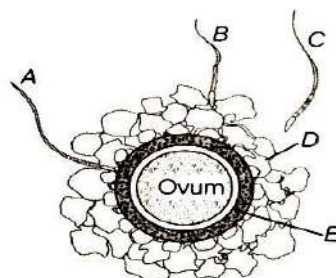
- 27 1. Explain the menstrual cycle in human females. 05



- Identify A, B, C & D in the given diagram.
- Why are menstrual cycles absent during pregnancy?

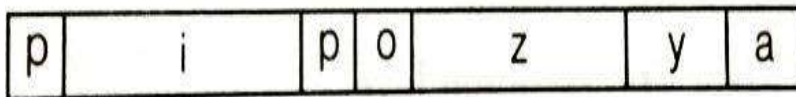
OR

Given below is the diagram of a human ovum surrounded by a few sperms. Study the diagram and answer the following questions.



- Which one of the sperms would reach the ovum earlier?
- Identify ‘D’ and ‘E’. Mention the role of ‘E’.
- Mention what helps the entry of sperm into the ovum and write the changes occurring in the ovum during the process.
- Name the specific region in the female reproductive system where the event represented in the diagram takes place.

- 28 Study the schematic representation of the genes involved in the lac operon given below and answer the questions. 05



- Identify and name the regulatory gene in this operon. Explain its role in 'switching off' the operon.
- Why is the lac operon's regulation referred to as negative regulation?
- Name the inducer molecule and the products of the genes 'z' and 'y' of the operon. Write the function of these gene products.

OR

Explain the various steps of DNA fingerprinting technique.

### SECTION: E

- 29 Read the paragraph and answer the following questions → 05

Few fossils of man-like bones have been discovered in Ethiopia and Tanzania. These revealed hominid features leading to the belief that about 3-4 mya, man-like primates walked in eastern Africa. They were probably not taller than 4 feet but walked up right. Two mya, Australopithecus probably lived in East African grasslands. Evidence shows they hunted with stone weapons but essentially ate fruit. Some of the bones among the bones discovered were different. This creature was called the first human-like being the hominid and was called Homo habilis.

- What was the brain capacity of Homo habilis and Homo erectus?
- What are the characteristics of Neanderthal man?
- Which species was called Java man?
- When pre historic cave art and agriculture was developed?
- What was the living place of Australopithecus?

OR

Natural selection is a process in which heritable variations enabling better survival are enabled to reproduce and leave greater number of progeny. A critical analysis makes us believe that variation due to mutation or variation due to recombination during gametogenesis or due to gene flow results in changed frequency of genes and alleles in future generation.

- Represent diagrammatically that natural selection can lead to stabilization
- More individuals acquire value other than mean character value. Explain.
- State the condition when more individuals acquire peripheral character value at both the ends of the distribution curve.
- Basing upon natural selection suggest the kind of curve / graph depicting the effect of corona virus on the population of age group of 45 years onward.
  - Before vaccination.
  - After vaccination.

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**D.A.V INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION 2022-2023**

**Class : XII**

**Maximum Marks : 80**

**Subject: Accountancy**

**Time : 3 Hours.**

*General Instructions:*

1. There are 32 questions in the question paper. All questions are compulsory.
2. Question nos. 1 to 20 are very short answer type questions carrying 1 mark each.
3. Question nos. 21 and 22 are short answer type–I questions carrying 3 marks each.
4. Question nos. 23 to 27 are short answer type–II questions carrying 4 marks each.
5. Question nos. 28, 29 and 30 are long answer type–I questions carrying 6 marks each.
6. Question nos. 31 and 32 are long answer type–II questions carrying 8 marks each.
7. There is no overall choice. However, an internal choice has been provided in 2 questions of three marks, 2 questions of four marks and 2 questions of eight marks.
8. All parts of a question are to be answered together.

- |   |  |   |
|---|--|---|
| 1 | <p><b>Assertion (A):</b> It is a necessary condition that the partners should agree to carry on business and share profits and losses.</p> <p><b>Reason (R):</b> Partnership may be carried on the basis of written or oral agreement for sharing profits but not the losses.</p> <p>In the context of above two statements, which of the given below statement is correct?</p> <ul style="list-style-type: none"><li>a) Assertion (A) and Reason (R) are correct but the Reason (R) is not the correct explanation of Assertion (A).</li><li>b) Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).</li><li>c) Assertion (A) is correct but the Reason (R) is not correct.</li><li>d) Both Assertion (A) and Reason (R) are incorrect.</li></ul> | 1 |
| 2 | <p>Ram and Mohan are partners. They draw for personal use Rs. 6,000 and Rs. 4,000 respectively. Interest is chargeable @ 6% p.a. on Drawings. What is the interest on drawings?</p> <ul style="list-style-type: none"><li>(a) Ram Rs. 180 and Mohan Rs.120.</li><li>(b) Ram Rs.360 and Mohan Rs. 240.</li><li>(c) Ram Rs. 30 and Mohan Rs. 20</li><li>(d) None of these</li></ul>  | 1 |
| 3 | <p>Mohan draws Rs. 10,000 p.m. on last day of every month for his personal use. If interest is to be charged @ 5% p.a., Interest chargeable from him in accounting year will be</p> <ul style="list-style-type: none"><li>a) Rs. 3,250.</li><li>b) Rs. 2,750.</li><li>c) Rs. 3,000.</li><li>d) Rs. 3,500.</li></ul>  | 1 |
| 4 | <p>Which of the given below statement is Correct?</p> <ul style="list-style-type: none"><li>(a) Goodwill is a fictitious asset.</li><li>(b) Goodwill is a current asset.</li><li>(c) Goodwill is a wasting asset.</li><li>(d) Goodwill is an intangible asset.</li></ul>   | 1 |

- 5 Excess amount that a firm gets over and above the market value of assets at the time of sale of its business is **1**
- Profit.
  - Super Profit.
  - Reserve.
  - Goodwill.
- 6 The term 'Number of Years' Purchase' means **1**
- The number of years during which the purchaser of Goodwill expects that the profit due to goodwill are likely to arise in future.
  - Number of years in which goodwill is purchased.
  - Number of years for which goodwill purchased will not help the firm in earning similar profits.
  - None of the above.
- 7 X and Y are partners sharing profits in the ratio of 2:1. They admit Z into the partnership for 1/4th share in profits for which he brings Rs. 20,000 as his share of capital. Hence, the adjusted capitals of X and Y will be **1**
- Rs. 40,000 and Rs. 20,000 respectively
  - Rs. 32,000 and Rs. 16,000 respectively.
  - Rs. 60,000 and Rs. 30,000 respectively.
  - Rs. 20,000 and Rs. 40,000 respectively.
- 8 Angle and Circle were partners in a firm. Their Balance Sheet showed Furniture at Rs. 2,00,000; Stock at Rs. 1,40,000; Debtors at Rs. 1,62,000 and Creditors at Rs. 60,000. Square was admitted and new profit-sharing ratio was agreed at 2 : 3 : 5. Stock was revalued at Rs. 1,00,000, Creditors of Rs. 15,000 are not likely to be claimed, Debtors for Rs. 2,000 have become irrecoverable and Provision for doubtful debts to be provided @ 10%. Angle's share in loss on revaluation amounted to Rs. 30,000. Revalued value of Furniture will be **1**
- Rs. 2,17,000.
  - Rs. 1,03,000.
  - Rs. 3,03,000
  - Rs. 1,83,000
- 9 A and B are partners sharing profit in the ratio of 3:2. They admit C as a partner by giving him 1/3 share in future profits. The new ratio will be: **1**
- 12:8:5
  - 8:12:5
  - 5:5:12
  - None of these
- 10 X, Y and Z are partners sharing profits in the ratio of  $\frac{1}{2}$  ,  $\frac{2}{5}$  and  $\frac{1}{10}$ . Find the new ratio of remaining partners if Z retires. **1**
- 1:2
  - 2:5
  - 5:4
  - None of these
- 11 A , B and C are partners sharing profits and losses in the ratio of 5 : 4 : 3. C retires and is credited for Rs. 9,000 as goodwill. How much will be debited to A in respect of goodwill adjustment ? **1**
- Rs. 20,000
  - Rs. 16,000
  - Rs. 5,000
  - Rs. 4,000

- 12** A, B and C are partners sharing profit in the ratio 3:2:1. They closed their book on 31<sup>st</sup> March 2021. C died on 31-01-2022. Profit of the last year was Rs. 72,000. Calculate C's share of profit on his death on the basis of Last Year's profit. **1**
- (a) Rs. 12,000  
(b) Rs. 10,000  
(c) Rs. 60,000  
(d) Rs. 72,000
- 13** When realisation expenses are paid by the firm on behalf of a partner, such expenses are debited to : **1**
- (a) Realisation Account  
(b) Partners' Capital Account  
(c) Partner's Loan Account  
(d) None of these
- 14** At the time of dissolution, total assets are of Rs. 12,00,000 and external liabilities are of Rs. 4,80,000. If assets realised 120% and realisation expenses paid were Rs. 16,000. Then gain or loss on realisation will be **1**
- (a) Gain Rs. 2,40,000.  
(b) Loss Rs. 2,40,000.  
(c) Loss Rs. 2,24,000.  
(d) Gain Rs. 2,24,000.
- 15** On dissolution of the firm, Partners' Capital Accounts are closed through : **1**
- (a) Realisation Account  
(b) Drawings Account .  
(c) Bank Account  
(d) Loan Account
- 16** On dissolution of a firm, Partner's Loan Account is transferred to: **1**
- (a) Realisation Account  
(b) Partner's Capital Account  
(c) Partner's Current Account  
(d) None of these
- Nidiya limited was incorporated on 1st April 2017 with registered office in Mumbai. The capital clause of memorandum of Association reflected a registered capital of 8,00,000 equity shares of Rs.10 each and 1,00,000 preference shares of Rs.50 each.
- Since some large investments were required for building and machinery the company in consultation with vendors, Ms. VPS Enterprises, issued 1,00,000 equity shares and 20,000 preference shares at par to them in full consideration of assets acquired. Besides this the company issued 2,00,000 equity shares for cash at par payable as Rs 3 on application, Rs. 2 on allotment, Rs. 3 on first call and Rs. 2 on second call.
- Till date second call has not yet been made and all the shareholders have paid except Mr. Ajay who did not pay allotment and calls on his 300 shares and Mr. Vipul who did not pay first call on his 200 shares. Shares of Mr. Ajay were then forfeited and out of them 100 shares were reissued at Rs.12 per share.
- Based on above information you are required to answer the given below.
- 17** Shares issued to vendors of building and machinery, Ms. VPS Enterprises, would be classified as: **1**
- a. Preferential Allotment  
b. Employee Stock Option Plan  
c. Issue for Consideration other than cash  
d. Right Issue of Shares

- 18 How many equity shares of the company have been subscribed ? 1  
 a. 3,00,000  
 b. 2,99,500  
 c. 2,99,800  
 d. None of these
- 19 What is the amount of security premium reflected in the balance sheet at the end of the year? 1  
 a. Rs. 200  
 b. Rs. 900  
 c. Rs. 400  
 d. Rs. 1,000
- 20 What amount of share forfeiture would be reflected in the balance sheet? 1  
 a. Rs. 600  
 b. Rs. 900  
 c. Rs. 200  
 d. Rs. 300
- 21 Karim, Saleem and Rahim are sharing profits and losses in the ratio of 5 : 3 : 2. They decide to share profits and losses in the ratio of 2 : 3 : 5 with effect from 1<sup>st</sup> April, 2022. They also decide to record the effect of the given below items without affecting their book values, by passing an adjustment entry: 3  
 General Reserve of Rs. 1,50,000  
 Contingency Reserve of Rs. 25,000  
 Profit & Loss A/c (Cr.) of Rs. 75,000  
 Advertisement Suspense A/c (Dr.) of Rs. 1,00,000.  
 Pass the necessary journal entry.

**OR**

Samiksha, Ash and Divya were partners in a firm sharing profits and losses in the ratio of 5 : 3 : 2 With effect from 1<sup>st</sup> April, 2022, they agreed to share future profits and losses in the ratio of 2 : 5 : 3. Their Balance Sheet showed a debit balance of Rs. 50,000 in the Profit & Loss Account and a balance of Rs. 40,000 in the Investment Fluctuation Fund. For this purpose, it was agreed that:

- (i) Goodwill of the firm be valued at Rs. 3,00,000.
  - (ii) Investments of book value of Rs. 5,00,000 be valued at Rs. 4,80,000.
- Pass the necessary Journal entries to record the above transactions in the books of the firm.

- 22 Armaan, Anup and Sushant were partners in a firm sharing profits in the ratio of 3 : 2 : 1. Sushant retired and the new profit-sharing ratio between Armaan and Anup was 1 : 2. On Sushant's retirement, goodwill of the firm was valued at Rs. 30,000. Pass necessary Journal entry for the treatment of goodwill on Sushant's retirement. 3

**OR**

Amal, Bikki and Chandu are partners sharing profits in the ratio of 1 : 2 : 3. Chandu retires and his capital, after making adjustments for reserves and gain (profit) on revaluation is Rs. 2,20,000. Amal and Bikki agreed to pay him Rs. 2,50,000 in full settlement of his claim. Pass necessary Journal entry for the treatment of goodwill if new profit-sharing ratio is decided at 1:3.

- 23 A, B and C were partners. Their fixed capitals were A- Rs. 30,000; B- Rs. 20,000 and C- Rs. 10,000 respectively. According to the Partnership Deed, they were entitled to an interest on capital at 5% p.a. In addition, B was also entitled to draw a salary of Rs. 500 per month. C was entitled to a commission of 5% on the 4



profits after charging interest on capital, but before charging salary payable to B. Net profit for the year was Rs. 30,000 distributed in the ratio of capitals without providing for any of the above adjustments. The profits were to be shared in the ratio of 5 : 2 : 3. Pass necessary adjustment entry showing the workings clearly.

**OR**

A, B and C are partners in a firm having fixed capitals of Rs. 80,000; Rs. 40,000 and Rs. 50,000 respectively sharing profits as 7:6:4. The rate of interest on capital was agreed at 10% p.a. but was wrongly credited to them at 12% p.a. Pass necessary adjustment entry to adjust the balances of partners' capital accounts.

- 24** Radhika, Bani and Chitra were partners in a firm sharing profits and losses in the ratio of 2 : 3 : 1. With effect from 1<sup>st</sup> April, 2022, they decided to share future profits and losses in the ratio of 3 : 2 : 1. On that date their Balance Sheet showed a debit balance of Rs. 24,000 in Profit & Loss Account and a balance of Rs. 1,44,000 in General Reserve. **4**

It was also agreed that:

(a) The goodwill of the firm be valued at Rs. 1,80,000.

(b) The Land (having book value of Rs. 3,00,000) will be valued at Rs. 4,80,000.

Pass the necessary Journal entries for the above changes.

- 25** Abhay and Beena are partners in a firm. They admit Chetan as a partner with  $\frac{1}{4}$ <sup>th</sup> share in the profits of the firm. Chetan brings Rs. 2,00,000 as his share of capital. Value of the total assets of the firm is Rs. 5,40,000 and outside liabilities are valued at Rs. 1,00,000 on that date. Give necessary entry to record goodwill at the time of Chetan's admission. Also, show your working notes **4**

- 26** Ram, Manohar and Param were partners in a firm. Param died on 29<sup>th</sup> February, 2022. His share of profit from the closure of the last accounting year till the date of death was to be calculated on the basis of the average of three completed years of profits before death. Profits for the years ended 31<sup>st</sup> March, 2019, 2020 and 2021 were Rs. Rs. 80,000, Rs. 90,000 and Rs. 1,00,000 respectively. Calculate Param's share of profit till his death and pass Journal entry for the same when: **4**

(i) profit-sharing ratio of remaining partners does not change; and

(ii) profit-sharing ratio of remaining partners changes and new ratio being 3 : 2.

- 27** Raunit Styles Ltd. was registered with a capital of Rs. 85,00,000 divided into equity shares of Rs. 100 each. The company invited applications for issuing 45,000 shares. **4**

The amount was payable as Rs. 25 on application, Rs. 35 on allotment, Rs.25 on first call and balance on final call.

Applications were received for 42,000 shares and allotment was made to all the applicants. Kavi, to whom 3,300 shares were allotted, failed to pay both the calls. His shares were forfeited.

Present the Share Capital in the Balance Sheet of the company as per Schedule III of the Companies Act, 2013. Also prepare notes to accounts for the same.

**OR**

Malakar's Ltd. is authorized with a capital of Rs. 15,00,000 divided into 1,50,000 Equity Shares of Rs. 10 each. The company issued 1,00,000 shares to the public for subscription. The company has called the total Nominal (face) value of the shares (I.e. Rs. 10) and received the amount on all the shares except a final call money of Rs. 3 on 10,000 shares.

(i) Show the "Share capital" in the balance sheet of the company as per Schedule III, part I of the Companies Act 2013.

(ii) Also prepare notes to accounts for the same.

- 28 Anwar, Biswas and Divya are partners in a firm. Their Capital Accounts stood at Rs. 8,00,000; Rs. 6,00,000 and Rs. 4,00,000 respectively on 1<sup>st</sup> April, 2021. They shared profits and losses in the ratio of 3 : 2 : 1 respectively. Partners are entitled to interest on capital @ 6% per annum and salary to Biswas and Divya @ Rs. 4,000 per month and Rs. 6,000 per quarter respectively as per the provisions of Partnership Deed. Biswas's share of profit including interest on capital but excluding salary is guaranteed at a minimum of Rs. 82,000 p.a. Any deficiency arising on that account shall be met by Divya. Profit for the year ended 31<sup>st</sup> March, 2022 amounted to Rs. 3,12,000. Prepare Profit & Loss Appropriation Account for the year ended 31<sup>st</sup> March, 2022. 6
- 29 Prateek, Neeraj and Umang were partners in a firm, sharing profits and losses in the ratio of 7:2:1. The firm was dissolved on 31<sup>st</sup> March, 2022. After transfer of assets (other than cash) and external liabilities to the Realisation Account, the given below transactions took place: 6
- (i) Furniture of Rs. 45,000 was sold by auction for Rs. 66,000 and the auctioneer's commission amounted to Rs. 2,000.
  - (ii) Office equipment of Rs. 90,000 was taken by creditors of the book value of Rs. 82,000 in full settlement.
  - (iii) Umang had given a loan of Rs. 1,09,000 to the firm. He accepted Rs. 1,00,000 in full settlement of his loan.
  - (iv) Investments were Rs. 53,000 out of which Rs. 23,000 was taken by Neeraj at Rs. 25,000. Balance of the investments were sold for Rs. 35,000.
  - (v) Expenses incurred on dissolution were Rs. 21,000 and were paid by Prateek.
  - (vi) Loss on dissolution was Rs. 40,000.
- Pass the necessary Journal entries for the above transactions in the books of the firm.
- 30 (a). Nav Lakshmi Ltd. forfeited 500 shares of Rs. 10 each for non-payment of first call of Rs. 3 per share. The final call of Rs. 2 per share is yet to be made. All the forfeited shares were reissued. Pass the necessary Journal entries in the given below cases : 6
- Case 1. If the shares are reissued for Rs. 5 per share.
- Case 2. If the shares are reissued for Rs. 9 per share, Rs. 8 called-up. (5)
- (b). Explain the term Sweat Equity Shares. (1)
- 31 L, M and N were partners in a firm sharing profits in the ratio of 2 : 1 : 1. On 1<sup>st</sup> April, 2021, their Balance Sheet was as under : 8

Liabilities	Rs.	Assets	Rs.
Capital A/cs:		Land	8,00,000
L      6,00,000		Building	6,00,000
M      4,80,000		Furniture	2,40,000
N      4,80,000		Debtors                      4,00,000	
-----	15,60,000	Less: Provision              20,000	
General Reserve	4,40,000	-----	3,80,000
Workmen		Stock	4,40,000
Compensation		Cash	1,40,000
Fund	3,60,000		
Creditors	2,40,000		
	<u>26,00,000</u>		<u>26,00,000</u>

On the above date N retired.

All agreed on given below terms:

- (i) Goodwill of the firm was valued at Rs. 6,00,000.
- (ii) Land was to be appreciated by 40% and Building was to be depreciated by Rs. 1,00,000.
- (iii) Furniture was to be depreciated by Rs. 30,000.
- (iv) The liabilities for Workmen's Compensation Fund were determined at Rs. 1,60,000.
- (v) Amount payable to N was transferred to his Loan Account.
- (vi) Capital of L and M were to be adjusted in their new profit-sharing ratio and for this purpose Current Account of the partners will be opened.

Prepare Revaluation Account, Partners' Capital Accounts and the Balance Sheet of the new firm.

### OR

Sanjana and Alok were partners in a firm sharing profits and losses in the ratio 3 : 2. On 31<sup>st</sup> March, 2021 their Balance Sheet was as under :

BALANCE SHEET OF SANJANA AND ALOK as on 31<sup>st</sup> March, 2021

Liabilities	Rs.	Assets	Rs.
Capital A/cs:		Cash	1,66,000
Sanjana 5,00,000		Debtors 1,46,000	
Alok 4,00,000		Less: Provision 2,000	
-----	9,00,000	-----	1,44,000
Workmen		Stock	1,50,000
Compensation Fund	60,000	Investments	2,60,000
Creditors	60,000	Furniture	3,00,000
	<u>10,20,000</u>		<u>10,20,000</u>

On 1<sup>st</sup> April, 2021, they admitted Nidhi as a new partner for 1/4<sup>th</sup> share in the profits on the given below terms:

- (a) Goodwill of the firm was valued at Rs. 4,00,000 and Nidhi brought the necessary amount in cash for her share of goodwill premium, half of which was withdrawn by the old partners.
- (b) Stock was to be increased by 20% and furniture was to be reduced to 90%.
- (c) Investments were to be valued at Rs. 3,00,000. Alok took over investments at this value.
- (d) Nidhi brought Rs. 3,00,000 as her capital and the capitals of Sanjana and Alok were adjusted in the new profit-sharing ratio.

Prepare Revaluation Account, Partners' Capital Accounts and the Balance Sheet of the reconstituted firm on Nidhi's admission.

32

X Ltd. was registered with an authorised capital of Rs. 20,00,000 in Rs. 10 per equity share. It invited applications for issuing 1,00,000 equity shares at a premium of Rs. 2 per share. The amount was payable as :

On application Rs. 4 per share (including premium), On allotment Rs. 3 per share, Balance on 1<sup>st</sup> and Final call.

Applications were received for 1,30,000 shares. Applications for 10,000 shares were rejected and the application money received on them was refunded. Pro-rata allotment was made to the remaining applications. Amount overpaid on these applications was adjusted towards the amount due on allotment. Kunal, who has

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applied for 1,200 shares, failed to pay the allotment and call money. The company forfeited his shares, out of which 800 shares were reissued to Ayush at Rs. 9 per share fully paid up.

You are required to pass the Journal Entries in the books of X Ltd.

**OR**

‘KLN Ltd.’ invited applications for issuing 1,00,000 shares of Rs.10 each at a premium of Rs. 2 per share. The amount was payable as under :

On Application- Rs. 3 per share (including premium Rs. 1),

On Allotment- Rs. 4 per share (including premium Rs. 1),

On First Call- Rs. 3 per share, and

On Second and Final Call-Balance amount.

Applications for 1,90,000 shares were received. Allotment was made to the applicants as given under :

Category	No. of Shares Applied	No. of Shares Allotted
I	50,000	40,000
II	1,00,000	60,000

Remaining applications were rejected.

Rajat, a shareholder belonging to Category I who had applied for 2,500 shares, failed to pay the amount due on allotment and first call. His shares were immediately forfeited. Reema, a shareholder belonging to Category II who was holding 3,000 shares failed to pay the first call and second call money. Her shares were also forfeited. Afterwards 4,000 shares were reissued @ Rs. 8 per share fully paid-up. These included all the forfeited shares of Reema. Pass necessary Journal entries for the above transactions in the books of ‘KLN Ltd.’

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# D.A.V. INSTITUTIONS, WEST BENGAL ZONE

## MID TERM EXAMINATIONS

SESSION: 2022 – 2023

CLASS: XII

SUBJECT: APPLIED MATHEMATICS

MAXIMUM MARKS: 80

TIME: 3 HOURS

### General instructions:

- The question paper consists of five sections A, B, C, D and E. Section A contains 8 questions of 1 mark each. Section B contains 2 case study based questions (Q.N 9 and 10). Each case study has 5 questions (MCQ type) of 1 mark each of which students have to attempt any four. Section C contains 10 questions of 2 marks each. Section D contains 8 questions of 3 marks each. Section E contains 4 questions of 5 marks each.
- Internal choices have been provided in 3 questions of Section C, 3 question of Section D and 2 question of Section E. You have to attempt only one of the alternatives in all such questions.
- Use of calculator is strictly prohibited.
- Log table & Z table will be provided.

### SECTION – A

- Find the remainder when  $2^{2^5} + 1$  is divisible by 641. 1
- A container contains 100 litres of milk. From this container, 10 litres of milk was taken out and replaced by equal amount of water. This process was further repeated twice. How much milk is left in the container? 1
- Give an example of a diagonal matrix which is not a scalar matrix. 1
- A tap can fill a tank in 10 minutes and another can empty it in 6 minutes. If the tank is already two-fifth full and both taps are opened together, how long will it take before the tank is either filled completely or emptied completely, as the case may be? 1
- Write a  $2 \times 2$  matrix which is both symmetric and skew-symmetric. 1
- If,  $A = \begin{bmatrix} a & 0 & 0 \\ 0 & a & 0 \\ 0 & 0 & a \end{bmatrix}$ , find the value of  $|\text{adj } A|$ . 1
- Find the values of x for which the matrix  $\begin{bmatrix} x & 4 \\ 2 & 2x \end{bmatrix}$  is singular. 1
- Evaluate:  $\int \frac{1}{\sqrt{2x^2+3x-2}} dx$  1

### SECTION - B

#### 9. CASE STUDY –I (answer any four MCQs)

To promote the making of toilets for women, an organization tried to generate awareness through house calls, emails and announcements. The cost for each mode per attempt is as follows.

a. House call : Rs. 50

b. Emails : Rs. 20

c. Announcements : Rs. 40

The number of attempts in the villages X, Y and Z are given alongside.

Also chance of making the toilets corresponding to one attempt of given modes is a. 2% b. 4% c. 20%

Based on the above information answer the following questions.

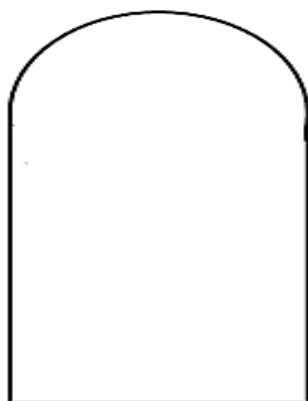
	a	b	c
X	400	300	100
Y	300	250	75
Z	500	400	150

- The cost incurred by the organization on village X is – 1
  - Rs. 10000
  - Rs. 15000
  - Rs. 30000
  - Rs. 20000

- (ii) The cost incurred by the organization on village Y is – 1  
 A) Rs. 25000  
 B) Rs. 18000  
 C) Rs. 23000  
 D) Rs. 28000
- (iii) The cost incurred by the organization on village Z is – 1  
 A) Rs. 19000  
 B) Rs. 39000  
 C) Rs. 45000  
 D) Rs. 50000
- (iv) Total number of toilets that can be expected after the promotion in village X is – 1  
 A) 20  
 B) 30  
 C) 40  
 D) 50
- (v) Total number of toilets that can be expected after the promotion in village Z is – 1  
 A) 26  
 B) 36  
 C) 46  
 D) 56

10. **CASE STUDY – 2(answer any four MCQs)**

Mr. Dhar is an architect. He designed a building and provided an entry door in the shape of a rectangle surmounted by a semi-circular opening. The perimeter of the door is 10 m.



Based on the above information, answer the following questions.

- (i) If  $2x$  meters and  $y$  meters be the breadth and height of the rectangular part of the door, then the relation between  $x$  and  $y$  is – 1  
 A)  $y = 5 - \frac{1}{2}(\pi + 2)x$  B)  $y = 10 - \frac{1}{2}(\pi + 2)x$  C)  $y = 5 - x - \pi x$  D)  $y = 10 - (\pi + 2)x$
- (ii) If  $A$  (sq. met.) is the area enclosed by the door, then – 1  
 A)  $y = 10x - (\pi + 2)x^2$  B)  $y = 10x - \frac{1}{2}(\pi + 2)x^2$  C)  $y = 10x - \frac{1}{2}(\pi + 4)x^2$   
 D)  $y = 10x + \frac{1}{2}(\pi - 4)x^2$
- (iii) To allow maximum airflow inside the building, the width of the door is – 1  
 A)  $\frac{10}{\pi+4}$  m B)  $\frac{20}{\pi+4}$  m C)  $\frac{10}{\pi+2}$  m D)  $\frac{40}{\pi+2}$  m
- (iv) To allow maximum airflow inside the building, the height of the door is – 1  
 A)  $\frac{10}{\pi+4}$  m B)  $\frac{20}{\pi+4}$  m C)  $\frac{10}{\pi+2}$  m D)  $\frac{40}{\pi+2}$  m

- (v) The area of the door which permits the maximum airflow inside the building is – 1
- A)  $\frac{100}{\pi+4} m^2$  B)  $\frac{200}{\pi+4} m^2$  C)  $\frac{80}{\pi+4} m^2$  D)  $\frac{50}{\pi+4} m^2$

### SECTION - C

11. Write the order and degree of the differential equation:  $\frac{\left\{1+\left(\frac{dy}{dx}\right)^2\right\}^{\frac{3}{2}}}{\left(\frac{d^2y}{dx^2}\right)} = k$  2

OR

Write the order and degree of the differential equation:  $\frac{d^2y}{dx^2} + \left(\frac{dy}{dx}\right)^{12} = xy$

12. If the marginal cost (MC) and the average cost (AC) for a product are equal, then show that the total cost is a linear function of number of units produced. 2
13. The supply function for a commodity is  $100p = (x + 20)^2$ . Find the producer's surplus when the market price is Rs. 25. 2
14. Using integration find the area of the region bounded between the line  $x = 2$  and the parabola  $y^2 = 8x$ . 2
15. If  $X$  is a normal variate with mean 12 and Standard Deviation 4, find  $P(0 \leq X \leq 12)$  2
16. There are 50 telephone lines in an exchange. The probability that any one of them will be busy is 0.1. Find the probability that all lines are busy. 2
17. If  $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ , then prove that  $A^2 - 4A - 5I = O$  2
18. Show that positive even integral powers of a skew-symmetric matrix are symmetric. 2

OR

$A = \begin{bmatrix} 1 & 2 \\ 4 & 2 \end{bmatrix}$ , then show that,  $|2A| = 4|A|$

19. A boatman rows to a place 45 km distant and comes back in 20 hours. He finds that he can row 12 km with the stream in the same time as 4 km against the stream. Find the speed of the boatman in still water and the speed of the stream. 2
20. Find the solutions of  $91x \equiv 42 \pmod{78}$  2

OR

Solve :  $|2 + 3x| \geq 0$

### SECTION - D

21. A random variable  $X$  has the following probability distribution. 3

<b>X</b>	0	1	2	3	4	5	6	7
<b>P(X)</b>	0	$k$	$2k$	$2k$	$3k$	$k^2$	$2k^2$	$7k^2 + k$

Find  $P(X < 6)$ .

22. The mean and variance of a binomial distribution are 4 and  $\frac{4}{3}$  respectively. Find  $P(X \geq 1)$ . 3
23. Evaluate:  $\int \frac{x^6}{x-1} dx$  3

OR

Evaluate:

$$\int_0^1 x(1-x)^n dx$$

24. Evaluate:  $\int (x+1)e^x \log(xe^x) dx$  3

25. Evaluate: 3

$$\int_1^2 \frac{x}{(x+1)(x+2)} dx$$

26. Evaluate: 3
- $$\int_0^a \frac{\sqrt{x}}{\sqrt{x} + \sqrt{a-x}} dx$$

**OR**

Evaluate:

$$\int \frac{(x^4 - x)^{\frac{1}{4}}}{x^5} dx$$

27. Find the solution set of the inequation  $\frac{x+3}{x-2} \leq 2$  3

**OR**

Find the solution set of the inequation  $\frac{|x|+1}{|x|-1} < 0$

28. The sum of three numbers is 6. If we multiply the third number by 2 and add the first number to the result, we get 7. By adding second and third numbers to three times the first number we get 12. Using Cramer's rule find the numbers. 3

### SECTION – E

29. Assuming that the chance of a traffic accident in a day in a street of Kolkata is 0.001. On how many days out of a total of 500 days can we expect (i) No accident (ii) more than 3 accidents if there are 1000 such streets in the whole city. (Use  $\frac{1}{e} = 0.3679$ ) 5

**OR**

In a certain factory turning out razor blades, there is a small chance  $\frac{1}{500}$  for any blade to be defective. The blades are supplied in a packet of 10. Use Poisson distribution to calculate the approximate number of packets containing (i) no defective, (ii) one defective, (iii) two defective (iv) three defective blades, in a consignment of 10,000 packets.

30. Find the inverse of the matrix  $A = \begin{bmatrix} 3 & -1 & 1 \\ -15 & 6 & -5 \\ 5 & -2 & 2 \end{bmatrix}$  and hence show that  $A^{-1}A = I$  5

31. A firm has the cost function  $C = \frac{x^3}{3} - 7x^2 + 11x + 50$  and demand function  $p = 100 - x$ . 5

- (i) Write the total revenue function in terms of  $x$ .
- (ii) Formulate the total profit function  $P$  in terms of  $x$ .
- (iii) Find the profit maximizing level of output  $x$ .
- (iv) Find the maximum profit.

32. In a bank, principal increases continuously at the rate of 5% per year. In how many years Rs. 1000 double itself? 5

**OR**

Obtain the differential equation of the family of circles passing through the fixed points  $(a, 0)$  and  $(-a, 0)$ .

\*\*\*\*\*



**DAV INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION – 2022-23**

**Class: XII**

**Maximum Marks: 60**

**Subject: BANKING**

**Time: 3 HRS**

**General Instructions:**

1. Please read the instructions carefully.
2. This question paper consists of 24 questions in two sections- Section A & Section B
3. Section A has Objective type questions whereas Section B contains subjective type questions
4. Out of the given (6+18) 24 questions, candidate has to answer (6+11) 17 questions in the allotted (Maximum) time of 3 hrs.
5. All questions of a particular section must be attempted in the correct order
6. Section A- Objective type questions (30 marks)
7. Section B- Subjective type questions (30 marks)

**SECTION – A (Objective Type Questions)**

- Q 1 Answer any 4 out of the given 6 questions on Employability Skills 1x4**
- i) Environmental barriers are same as ..... noise? 1
- a) Physiological
  - b) Psychological
  - c) Physical
  - d) Sociological
- ii) Ability to work independently can be enhanced by being ..... 1
- a) Self-awareness
  - b) Self-Motivation
  - c) Self-regulated
  - d) All of the above
- iii) ICT stands for ..... 1
- iv) The person who transmits the message is called ..... 1
- a) Sender
  - b) Giver
  - c) Taker
  - d) Receiver
- v) ..... refers to human efforts for maintaining healthy body and mind. 1
- vi) ..... act as an interface between the user and the computer. 1
- a) Operating system
  - b) MS Excel
  - c) Inpress
  - d) Digital documentation
- Q 2 Answer any 05 questions out of the given 7 questions 1x5**
- i) What is the minimum amount of RTGS? 1
- a) None
  - b) Rs 50000
  - c) Rs 200000
  - d) Rs 1000000
- ii) CBS stands for ..... 1
- a) Central Banking system
  - b) Core Banking system
  - c) Core Banking solution
  - d) None
- Reconciliation of entries is carried out by which part of the bank?
- iii) 1
- a) Front office
  - b) Middle office
  - c) Back office
  - d) None

iv)	MIBOR stands for .....	1
v)	IFSC code has ..... characters?	1
	a) 7	
	b) 11	
	c) 9	
	d) None of the above	
vi)	WAP stands for .....	1
	a) Without application protocol	
	b) Wingless application platform	
	c) Wireless application protocol	
	d) None of the above	
vii)	Actual payment of money by one Bank to another is known as .....	1
	a) Multi-lateral netting	
	b) Bi lateral netting	
	c) Settlement	
	d) None of the above	
<b>Q 3</b>	<b>Answer any 06 questions out of the given 07 questions</b>	<b>1x6</b>
i)	CORE stands for .....	1
ii)	What is the full form of KYC?	1
iii)	..... Office carries out the traction processing for the bank.	1
iv)	In case of overdraft account, interest is charged only on the ..... Balance.	1
v)	RTGS as well as NEFT uses	1
	a) UTR number	
	b) MICR	
	c) IFSC	
	d) DNS	
vi)	Interest on loan is calculated by the bank on .....	1
	a) Original loan amount	
	b) Loan outstanding amount	
	c) Average outstanding loan amount	
	d) None of the above	
vii)	Currently which bank has highest ATM networks	1
	a) ICICI Bank	
	b) SBI	
	c) HDFC Bank	
	d) Central Bank	
<b>Q 4</b>	<b>Answer any 05 questions out of the given 06 questions</b>	<b>1x5</b>
i)	What is the full form of IFSC?	1
ii)	PIN stands for .....	1
iii)	MICR stands for .....	1
iv)	Interest is always expressed in terms of ..... per annum	1
v)	CBS is based on ..... Architecture	1
	a) Service oriented	
	b) Goods oriented	
	c) Both (a) & (b)	
	d) None of the above	
vi)	Full form of SEBI is .....	1
<b>Q 5</b>	<b>Answer any 05 questions out of the given 06 questions</b>	<b>1x5</b>
i)	..... can be returned for insufficient funds in the account.	1
ii)	Full form of OTP is .....	1
iii)	..... Office of the Bank is known as the SWEAT Shop.	1
iv)	Front end interest calculated is ..... than Back end interest.	1
v)	RTA stands for .....	1
vi)	AML stands for .....	1

<b>Q 6</b>	<b>Answer any 05 questions out of the given 06 questions</b>	<b>1x5</b>
vi)	NEFT stands for .....	1
vi)	SOA stands for .....	1
vi)	Which part of the bank is known as the revenue generator?	1
	a) Front office	
	b) Middle office	
	c) Back office	
	d) None of the above	
vi)	What is the maximum limit for a NEFT transfer per transaction?	1
vi)	Data validation is made by ..... and ..... Procedures.	1
vi)	When a fixed deposit matures, bank credits ..... to the account	1
	a) Interest only	
	b) Principal plus interest	
	c) Principal only	
	d) None of the above	

### **SECTION B (SUBJECTIVE TYPE QUESTIONS)**

**Answer any 03 questions out of the given 05 questions on Employability skills.**

**2x3**

**Answer each questions in 20-30 words**

<b>Q 7</b>	Write the 7C's of communication?	2
<b>Q 8</b>	What do you mean by Motivation?	2
<b>Q 9</b>	Write the short cut key for	2
	a) CUT	
	b) PASTE	
<b>Q 10</b>	State any two advantages of non-verbal communication?	2
<b>Q 11</b>	State any two steps to overcome personality disorders?	2

**Answer any 03 questions out of the given 05 questions.**

**2x3**

**Answer each questions in 20-30 words**

<b>Q 12</b>	State any two duties of Bailee?	2
<b>Q 13</b>	Explain any two security risks in Internet Banking?	2
<b>Q 14</b>	Write any two functions of Middle office?	2
<b>Q 15</b>	What is Rate of Return?	2
<b>Q 16</b>	What is non fund based income?	2

**Answer any 02 questions out of the given 03 questions.**

**3x2**

**Answer each questions in 30-50 words**

<b>Q 17</b>	Explain the need of letter of credit?	3
<b>Q 18</b>	Explain any three advantages of computerized accounting?	3
<b>Q 19</b>	Write any three functions of Back office?	3

**Answer any 03 questions out of the given 05 questions.**

**4x3**

**Answer each questions in 50-80 words**

<b>Q 20</b>	Write any four differences between Banker's cheque and Demand draft?	4
<b>Q 21</b>	Write a short note on Phishing?	4
<b>Q 22</b>	Explain a Branch Manager's duty as a Retail Banker?	4
<b>Q 23</b>	What are the differences between fixed and floating rate of interest?	4
<b>Q 24</b>	Write any four benefits of NEFT?	4

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022-2023**

**Class: XII**  
**Subject: Business Studies**

**Maximum Marks: 80**  
**Time: 3 Hours**

**General instructions:**

- 1 This question paper contains 5 pages and 34 questions.
2. Marks are indicated against each question.
3. Answer should be brief and to the point.
4. Answers to the questions carrying 3 marks may be from 50 to 75 words.
5. Answers to the questions carrying 4 marks may be about 150 words.
6. Answers to the questions carrying 6 marks may be about 200 words.
7. Attempt all parts of the questions together.

- 1 Both Company A and Company B are using the same amount of resources, however the output of company A is higher than that of company B. Identify the concept in which Company A has an edge over Company B. 1

- (a) Effectiveness  
(b) Efficiency  
(c) Both (A) & (B).  
(d) None of the above

- 2 Match the concept of management in Column I with their respective explanation in Column II 1

(A) Management is all pervasive	(i) Management ensures teamwork and coordination of individual efforts.
(B) Management of people	(ii) Management directly deals with the human element in the organisation.
(C) Management is a group activity	(iii) Management is present everywhere.
(D) Management of operations	(iv) All organisations are engaged in providing some basic products or services.

- (a) (A) – (i); (B) – (ii); (C) – (iii); (D) – (iv)  
(b) (A) – (ii); (B) – (i); (C) – (iii); (D) – (iv)  
(c) (A) – (iii); (B) – (ii); (C) – (i); (D) – (iv)  
(d) (A) – (iv); (B) – (ii); (C) – (iii); (D) – (i)

- 3 Mr Raj is the owner of “Raj Diary”. He is producing various milk products. He always tests various ways of producing different products and chooses the best and most economical way of production. He is also very particular about fixing a place for everything and he makes sure that all the employees are given a fixed place so that there is no wastage of time and delay in production Answer the following questions. 1

Which technique of scientific management is applied by Mr. Raj?

- (a) Motion study  
(b) Method study  
(c) Fatigue study  
(d) None of the above

- 4 Which principle of Henry Fayol is followed by Mr. Raj in the above case ? 1

- (a) Principle of equity  
(b) Principle of discipline  
(c) Principle of order  
(d) All of the above.

- 5 The trend of Yoga as a result of COVID -19 relates to..... 1

- (a) Social environment  
(b) Political environment  
(c) Technological environment  
(d) Legal environment

- 6 Investors, customers, competitors and suppliers are related to which concept of business environment? 1  
 (a) General Force  
 (b) Specific Force  
 (c) General and Specific  
 (d) None of the above
- 7 Planning requires logical and systematic thinking rather than guess work or wishful thinking. Identify the concept related to planning. 1  
 (a) Planning is futuristic  
 (b) Planning is a mental exercise.  
 (c) Planning establishes standards for controlling.  
 (d) Planning focuses on achieving objectives.
- OR
- Identify the statement which is not correct.  
 (a) Planning is required at top-level management only.  
 (b) Planning facilitates decision-making  
 (c) Planning is a time consuming process  
 (d) All are correct.
- 8 For the following two statements choose the correct option: 1  
 Statement I: Planning provides direction for action.  
 Statement II: Planning cannot reduce the risk of uncertainty.  
 Choose the correct option from the options given below:  
 (a) Statement I is correct and II is wrong  
 (b) Statement II is correct and I is wrong  
 (c) Both the statements are correct  
 (d) Both the statements are incorrect
- 9 Uranus Limited is a company dealing in metal products. The work is mainly divided into functions including production, purchase, marketing, accounts and personnel. Identify the type of organisational structure followed by the organisation. 1  
 (a) Functional structure  
 (b) Relational structure  
 (c) Divisional structure  
 (d) None of the above
- 10 Rishabh has joined as a Creative Head in an entertainment company. He always ensures that the work has been divided into small and manageable activities and also the activities of similar nature are grouped together. Identify the related step in organising process being mentioned in the above lines. 1  
 (a) Identification and division of work  
 (b) Departmentalisation  
 (c) Assignment of duties  
 (d) Establishing reporting relationships
- 11 Assertion (A): Delegation does not mean abdication. 1  
 Reason (R): A manager is under obligation to perform the delegated task.  
 (a) Both Assertion (A) and reason (R) are true.  
 (b) Both Assertion (A) and reason (R) are false  
 (c) Assertion (A) is true and reason (R) is false  
 (d) Assertion (A) is false and reason (R) is true
- 12 "Electro Pvt.Ltd." is a well known company manufacturing different kinds of electronic items. Company is in need of employees. Mr. A, Personal Manager is keen to select such persons who are well equipped with the latest knowledge. He also desires that the area of selection should be extensive. He anticipated that the company will require 15 additional persons to fill up the different vacancies. He gave an advertisement in the newspaper inviting applications for filling up different job positions. 100 applications were received. The same were scrutinized. Out of these 25 applicants were called for preliminary interview. The candidates called for were asked to fill up blank application form. Thereafter, 1

they were given three tests. The purpose of one of the test was to find out how much capability a person has to mix-up with other persons, and whether he can influence other persons and get influenced by them.

In your opinion which source of recruitment should be used by H.R.Manager?

(a)External Source

(b)Internal Source

(c)Transfer

(d)Promotion

13 Which one of the following is not an advantage of the above source of recruitment? 1

(a)Influx of new talent.

(b)Wide choice

(c)Time consuming

(d)Not suitable for new organisation.

14 "He anticipated that the company will require 15 additional persons to fill up the different vacancies." Identify the concept of staffing carried out in the above line. 1

(a)Work Force Analysis

(b)Work Load Analysis

(c)Comparison

(d)Planning

15 "The purpose of one of the test was to find out how much capability a person has to mix-up with other persons, and whether he can influence other persons and get influenced by them." 1

Identify the test conducted by the organisation.

(a)Intelligence Test

(b)Aptitude Test

(c)Trade Test

(d)Personality Test

16 Which one of the following is not an element of direction? 1

(a)Motivation

(b)Communication

(c)Delegation

(d)Supervision

17 Mr.Hazra, a recently appointed sales representative of Moon Lit Ltd., has changed three jobs in the last year. He is hard working person but is not able to finalise deals with customers due to his inadequate vocabulary. Sometimes he uses wrong words because of which intended meaning is not conveyed. All this created misunderstanding between him and his customers. 1

Identify the communication barrier discussed above.

(a)Semantic Barrier

(b)Psychological Barrier

(c)Organisational Barrier

(d)Personal Barrier

18 Mr.Sambit , a manager in a chemical company, has given complete freedom to his subordinates because the subordinates are highly qualified and self-motivated. He avoids use of power and largely depend on the subordinates to establish own goals and workout its own problem. 1

Which style of leadership is being followed by Mr.Sambit?

(a)Autocratic Style

(b)Democratic Style

(c)Laissez-Fare Style

(d)Socialistic Style

- 19 Controlling function of an organisation is----- 1  
 (a)Forward looking  
 (b)Backward looking  
 (c)Forward as well as backward looking  
 (d)None of the above.
- 20 \_\_\_\_\_ refers to comparison of actual performance with the planned 1  
 performance and taking corrective actions.  
 (a) Organising  
 (b) Planning  
 (c) Directing  
 (d) Controlling
- OR
- Which one of the following is the first step in the controlling process?  
 (a) Taking corrective action  
 (b) Analysing the deviations  
 (c) Determining standards  
 (d) Measurement of actual performance
- 21 “Management is a profession.”Do you agree? Give three reasons in support of your 3  
 answer.
- OR
- Why is Coordination said to be the essence of management?
- 22 In order to ensure unity of command, Mr. Surya, the factory manager of M/S Play Kids 3  
 Pvt. Ltd.(Toys manufacturing Company), Appointed one foreman (Mr.Amartya) for the  
 entire work of panning and production. Mr.Amartya was not competent enough to  
 effectively supervise both planning and executing functions. It reduced the quality of work  
 as he was not able to control the workmen properly while they were producing the toys.  
 Name and explain technique of scientific management violated in the given case.
- 23 “In addition to providing directions and reducing the risk of uncertainty planning helps 3  
 managers in many other ways.” Explain any three such ways.
- OR
- State any three limitations of ‘Planning’ function of management.
- 24 Give any three points of difference between training and development. 3
- 25 “AdarshVidyalaya” belives in holistic development of students and encourages team 4  
 building through a mixture of curricular, co-curricular and sports activities. On its Silver  
 Jubilee a stage performance had to be put up. A committee of ten prefects was constituted  
 to plan different aspects of the function. They all decided to use recycled paper for  
 decoration. As there was a spirit of unity and harmony all members supported each other  
 with mutual trust and belongingness, the programme was systematically planned and  
 executed. Vinit one of the prefects, realised that unknowingly the group had applied one of  
 the principles of management while planning and executing the programme. He was so  
 inspired by the success of the function, that he asked his father to apply the same principle  
 in business.  
 (a)State any three features of management highlighted in the above paragraph. Also quote  
 the lines for the identified features.  
 (b)Identify by quoting the lines, the principles of management applied by the group of  
 prefects.
- 26 Explain by giving four reasons why understanding of business environment is important 4  
 for managers.
- 27 Vivek decided to start a chocolate manufacturing business. He set the target of earning of 4  
 10% profit on sales in the first year. He was concerned about the future of the business,  
 which was uncertain. He gathered information that the demands for chocolates is  
 increasing day by day. He used the information as the base for future planning and shared  
 it with his team. On the basis of the gatheredinformation, he scheduled a meeting in the  
 following weeks to find innovative ways to achieve the objectives.  
 Explain the first four steps of planning process quoting the lines from the above paragraph.

- 28 “Authority can be delegated and re-delegated but accountability can never be delegated.” 4  
Do you agree? Support your answer with the help of an example.
- OR
- Differentiate between Delegation and Decentralisation on the basis of (a) Nature (b) Freedom of action (c) Responsibility (d) Authority.
- 29 Discuss the various elements of directing. 4
- OR
- State and explain Maslow’s Need Hierarchy theory of motivation.
- 30 Jhon has started business after getting MBA degree. He is fully familiar with all the 4  
functions of management he starts his business with the planning function of management. He desires that all his activities should confirm to the plans. To this effect, he has adopted a system that keeps a constant watch on all activities of business. As a result there is no adverse results. This method not only applies to any one level of management but to all the levels of management.
- (a)Identify the function of management referred to in the aforesaid paragraph.  
(b)Describe any three limitations of the above mentioned function of management.
- 31 Discuss the difference between the contribution of Taylor and Fayol. 6
- OR
- Mohan is appointed as General Manager in MaxicusPvt. Ltd. But it is observed that no improvement is seen in the company. When CEO of the company analyse the reason, he came to know about following matters:
- (i) He is very careless about rules, he even does not give any parameter of reporting of work, completion of assignments.
  - (ii) He does not distribute the work among employees according to capability of employee.
  - (iii) He is passing the information without maintaining any levels.
  - (iv) He expects his colleagues to get work without giving them any power.
  - (v) He always made differential treatment with his employee.
  - (vi) He expects his subordinates to work without taking care of financial return.
- Identify the principle is being overlooked by Mohan in above case.
- 32 With help of a diagram, give the meaning of “Divisional Structure”. Explain any three 6  
advantages of this structure.
- 33 Explain the first six steps involved in staffing process. 6
- OR
- What are the internal sources of recruitment? State any two advantages and any two disadvantages of internal sources of recruitment.
- 34 Following communications indicate barriers to effective communication. Identify them and 6  
also mention any three measure to be taken to improve the effectiveness of the communication.
- (a)During a meeting, the manager was addressing to the problems of competitors’ pricing policy. The two executives were busy talking to each other about their plans for the coming long weekend. The manager got distracted and forgot to inform the major change in company’s pricing policy.
- (b)Sonu Limited follows Scalar Chain very strictly. No employees whatsoever may be the emergency is not allowed to divert from the defined path of communication.
- (c)A meeting of all supervisor is scheduled on 18th May 2022. This notice board was placed in the reception area of XYZ Ltd. The notice placed here did not mention clear specification regarding the time.

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022-2023**

**Class: XII**  
**Subject: Chemistry**

**Maximum Marks: 70**  
**Time: 3 Hours**

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**General Instructions:**

**Read the following instructions carefully and strictly follow them.**

- (i) This question paper contains 33 questions in 7 printed pages. All questions are compulsory.
- (ii) Section A- Q.No. 1 to 7 are MCQ, Q. No. 8 to 10 are Assertion – Reason type questions and Q. No. 11 to 14 are very short answer type questions, all carrying 1 mark each.
- (iii) Section B - Q.No. 15 to 21 are short answer type questions carrying 2 marks each.
- (iv) Section C - Q.No. 22 to 30 are short answer type questions carrying 3 marks each.
- (v) Section D - Q.No. 31 and 32 are long answer type questions carrying 5 marks each.
- (vi) Section E - Q.No. 33 is a case-based question carrying 5 marks.
- (vii) There is no overall choice. However, internal choices have been provided in two questions of 2 marks, three questions of 3 marks and both questions of 5 marks. You have to attempt only one of the choices in such questions.
- (viii) Use of log tables and calculators is not allowed.

**SECTION-A**

**Q.No.1 to 7 are multiple choice questions. Each question has one correct option. Choose the correct option.**

1. Standard electrode potential of three metals X, Y and Z are -1.2V, +0.5V and -3.0V respectively. The correct order of reducing power of these metals is: 1  
A.  $Y > Z > X$   
B.  $Y > X > Z$   
C.  $Z > X > Y$   
D.  $X > Y > Z$
2. Time taken to completely decompose 36g of water by passing 3 ampere of current is 1  
A. 35.8 hr  
B. 40 hr  
C. 51.8 hr  
D. 22.5 hr
3. In a first order reaction, the concentration of the reactant decreases from 0.6M to 0.3M in 30 minutes. The time taken for the concentration to change from 0.1M to 0.025M is 1  
A. 50 min  
B. 30 min  
C. 15 min  
D. 60 min

4. For a reaction,  $A+B \rightarrow P$  the rate law is given as:  $\text{Rate} = K[A][B]^2$  1  
 If the concentration of A as well as B is doubled, the rate of reaction  
 A. increases by two times  
 B. increases by four times  
 C. increases by eight times  
 D. remains same
5. An unknown alcohol is treated with the 'Lucas reagent' to determine whether the alcohol is primary, secondary or tertiary. Which alcohol reacts fastest and by what mechanism? 1  
 A. Tertiary alcohol by  $S_N1$   
 B. Secondary alcohol by  $S_N1$   
 C. Tertiary alcohol by  $S_N2$   
 D. Secondary alcohol by  $S_N2$
6. The reaction which involves dichlorocarbene as an electrophile is 1  
 A. Kolbe's Reaction  
 B. Reimer-Tiemann reaction  
 C. Friedel-Craft reaction  
 D. Fittig reaction
7. Given the organic compounds:  $\text{HCHO}$ ,  $\text{CH}_3\text{COCH}_3$ ,  $\text{PhCOCH}_3$ ,  $\text{PhCOPh}$  1  
 The correct increasing order of their reactivity towards  $\text{HCN}$  is  
 A.  $\text{HCHO} < \text{CH}_3\text{COCH}_3 < \text{PhCOCH}_3 < \text{PhCOPh}$   
 B.  $\text{PhCOPh} < \text{PhCOCH}_3 < \text{CH}_3\text{COCH}_3 < \text{HCHO}$   
 C.  $\text{PhCOPh} < \text{CH}_3\text{COCH}_3 < \text{PhCOCH}_3 < \text{HCHO}$   
 D.  $\text{PhCOCH}_3 < \text{PhCOPh} < \text{CH}_3\text{COCH}_3 < \text{HCHO}$

**Q. No. 8 to 10 are Assertion(A) and Reason (R) type questions. Given below are two statements labelled as Assertion(A) and Reason (R). Select the most appropriate answer from the options given below.**

- A. Both Assertion(A) and Reason (R) are correct statements and Reason(R) is the correct explanation of Assertion(A).  
 B. Both Assertion(A) and Reason (R) are correct statements and Reason(R) is not the correct explanation of Assertion(A).  
 C. Assertion(A) is correct but Reason (R) is wrong statement.  
 D. Assertion(A) is wrong but Reason (R) is correct statement.
8. **Assertion(A):** When  $\text{NaCl}$  is added to water, a depression in freezing point is observed. 1  
**Reason(R):** The lowering of vapour pressure of a solution causes depression in freezing point.
9. **Assertion (A):** Nucleophilic substitution in aryl halides is easier than in alkyl halides. 1  
**Reason (R):**  $\text{C-X}$  bond in aryl halide has partial double bond character due to resonance.

10. **Assertion(A):** Presence of a nitro group at ortho or para position increases reactivity of haloarenes towards nucleophilic substitution. 1  
**Reason(R):** Nitro group, being an electron withdrawing group decreases the electron density over the benzene ring.
11. What happens when salicylic acid is treated with  $(\text{CH}_3\text{CO})_2\text{O}$  in acidic medium? 1
12. Two liquids on mixing produce a warm solution. Which type of deviation from Raoult's law does it show? 1
13. How many Faradays of electricity is required for complete reduction of 100ml of 0.1M  $\text{KMnO}_4$  solution? 1
14. Graphically represent variation of Rate with Concentration for a reaction of zero order. 1

### SECTION - B

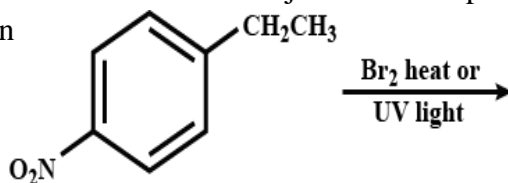
15. Given the three compounds - acetic acid, trichloroacetic acid and trifluoroacetic acid, dissolved in water in same concentrations, which one will cause the maximum depression in freezing point and why? 2
16. Relative lowering of vapour pressure is a colligative property-Derive and justify. 2
17. The rate constant for a first order reaction is  $60 \text{ s}^{-1}$ . How much time will it take to reduce the initial concentration of the reactant to 1/10 th of its initial value? ( $\log 10=1$ ) 2
18. Prove that the half-life period for a first order reaction is quite independent of the initial concentration of the reactants. 2

### OR

What is the effect of catalyst on- (Give Reason) 2 x 1=2

- (a) Activation energy ( $E_a$ ) of a reaction  
 (b) Gibb's energy ( $\Delta G$ ) of a reaction

19. The rate constant for a zero order reaction is  $0.003 \text{ mol L}^{-1}\text{s}^{-1}$ . How long will it take for the initial concentration of the reactant to fall from 0.10 M to 0.075 M? 2
20. (i) Arrange the following compounds in order of increasing boiling point: 2 x 1=2  
 Bromomethane, bromoform, chloromethane, dibromomethane  
 (ii) Draw the structure of major monohalo product in the following reaction



21. (i) Give the equation of reaction for the preparation of phenol from cumene. 2 x 1=2  
 (ii) How would you obtain 2-Methyl propan-2-ol from methyl magnesium bromide?

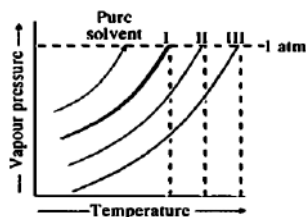
OR

Predict all the alkenes that would be formed by dehydrohalogenation of the following halides with sodium ethoxide in ethanol and identify the major alkene:

- (i) 1-Bromo-1-methylcyclohexane
- (ii) 2-Chloro-2-methylbutane.

SECTION - C

22. (i) State Henry's Law. Mention the significance of Henry's Law constant. 3 x 1=3
- (ii) Three vapour pressure curves for the same non-volatile solute in the same solvent are shown. The curves are parallel to each other and do not intersect. What is the correct order of the concentrations of the solutions?



- (iii) What will be the value of van't Hoff factor for a dilute solution of  $K_4[Fe(CN)_6]$ ? (Assuming 100% ionization)
23. (i) An azeotropic mixture consisting of liquids A and B has a boiling point of 351.3K. The boiling points of pure A and B are 373K and 351.5K, respectively. What type of deviation from Raoult's law does the mixture show? 1+2=3
- (ii) What mass of ethylene glycol (molar mass =  $62\text{g mol}^{-1}$ ) must be dissolved in 5.5kg of water to lower the freezing point of water from  $0^\circ\text{C}$  to  $-10^\circ\text{C}$ ? ( $K_f$  for water =  $1.86\text{ K kg mol}^{-1}$ )
24. (i) Show the variation of molar conductance with concentration for both weak and strong electrolytes diagrammatically. Mention the reason behind the difference in their behavior. 2 + 1 = 3
- (ii) Predict the products of electrolysis of the dilute solution of  $\text{H}_2\text{SO}_4$  using platinum electrodes.
25. (i) Define cell constant. 1 + 2=3
- (ii) Calculate  $\Delta G^\circ$  for the following reaction at  $25^\circ\text{C}$
- $$\text{Au(s)} + \text{Ca}^{2+}_{(\text{aq } 1\text{M})} \longrightarrow \text{Au}^{3+}_{(\text{aq } 1\text{M})} + \text{Ca(s)}$$
- Given,  $E^\circ_{\text{Au}^{3+}/\text{Au}} = +1.50\text{V}$ ;  $E^\circ_{\text{Ca}^{2+}/\text{Ca}} = -2.87\text{V}$
- Predict whether the reaction will be spontaneous or not.

OR

3

The conductivity of  $0.001\text{ mol L}^{-1}$  solution of  $\text{CH}_3\text{COOH}$  is  $4.95 \times 10^{-5}\text{ Scm}^{-1}$ . Calculate its molar conductance and degree of dissociation ( $\alpha$ ).

(Given,  $\lambda_{\text{H}^+} = 349.6\text{ Scm}^2\text{mol}^{-1}$ ;  $\lambda_{\text{CH}_3\text{COO}^-} = 40.95\text{ Scm}^2\text{mol}^{-1}$ )

26. The rate of a reaction quadruples when the temperature changes from 293K to 313K. Calculate the energy of activation of the reaction assuming that it does not change with temperature. ( $R=8.314 \text{ J K}^{-1}\text{mol}^{-1}$ ) 3
27. How the following conversions can be carried out? (in not more than 2 steps) 3 x 1 = 3
- Chlorobenzene to toluene
  - but-1-ene to but-2-ene
  - ethanol to ethyl iodide
28. Give reasons for the following: 3 x 1 = 3
- Thionyl chloride method is preferred for preparing alkyl chlorides from alcohol.
  - Halo alkanes react with KCN to form alkyl cyanides as main product while AgCN forms isocyanides as the major product.
  - Neopentyl bromide undergoes nucleophilic substitution reaction very slowly.

**OR**

- What are enantiomers?
  - What happens when n-butyl chloride is treated with alcoholic KOH?
  - ( $\pm$ ) 2-Butanol is optically inactive - Explain the statement.
29. (i) Arrange the following carbonyl compounds in increasing order of their boiling points. 1 + 2 = 3  
 $\text{CH}_3\text{CHO}$ ,  $\text{CH}_3\text{CH}_2\text{OH}$ ,  $\text{CH}_3\text{OCH}_3$ ,  $\text{CH}_3\text{CH}_2\text{CH}_3$   
 (ii) Draw the structures of the following compounds.  
 (a) Ethylene ketal of heptan-3-one  
 (b) Cyclobutanone oxime
30. (a) Give chemical test to distinguish between Acetophenone and benzophenone. 3 x 1 = 3  
 (b) Carboxylic acids contain carbonyl group but do not show the nucleophilic addition reactions like aldehydes or ketones. Why?  
 (c) There are two  $-\text{NH}_2$  groups in semicarbazide. Which one among them is involved in the formation of semicarbazone and why?

**OR**

Write the products formed when ethanal reacts with the following reagents.

- $\text{CH}_3\text{MgBr}$  and then  $\text{H}_3\text{O}^+$
- $\text{Zn-Hg}$  / Conc  $\text{HCl}$
- $\text{C}_6\text{H}_5\text{CHO}$  in the presence of dilute  $\text{NaOH}$

### SECTION – D

31. (i) Will the pH of brine (aqueous  $\text{NaCl}$  solution) be affected when it is electrolyzed? Justify your answer. 1+2+1+1=5  
 (ii) Can you recharge lead storage battery and use again? What type of a cell is lead storage battery? Write the overall cell reaction that occurs when the lead storage battery is in use.  
 (iii) State Faraday's First Law of electrolysis.  
 (iv) Write two advantages of  $\text{H}_2\text{-O}_2$  fuel cell over ordinary cell.

OR

(i) Using the  $E^0$  values of A and B, predict which is better for coating the surface of iron [ $E^0_{\text{Fe}^{2+}/\text{Fe}} = -0.44 \text{ V}$ ] to prevent corrosion and why?  
Given [ $E^0_{\text{A}^{2+}/\text{A}} = -2.37 \text{ V}$ ,  $E^0_{\text{B}^{2+}/\text{B}} = -0.14 \text{ V}$ ]

2 + 3 = 5

(ii) Three electrolytic cells A, B and C containing electrolytes  $\text{ZnSO}_4$ ,  $\text{AgNO}_3$  and  $\text{CuSO}_4$  respectively were connected in series. A steady current of 1.50 ampere was passed through them until 1.45g of Ag were deposited at the cathode of cell B. How long did the current flow? What mass of copper and zinc were deposited?

(Atomic mass: Cu=63.5 u, Zn=65.3 u, Ag=108u)

32. (i) Write chemical equations to illustrate the following reactions:

2 + 3 = 5

(a) Wolff-Kishner reduction

(b) Cannizzaro reaction

(ii) An organic compound 'A' (molecular formula  $\text{C}_8\text{H}_8\text{O}$ ) gives positive 2,4-DNP test. It gives a yellow precipitate of compound 'B' on heating with iodine and sodium hydroxide solution. Compound 'A' does not give Tollen's or Fehling's test. On drastic oxidation with  $\text{KMnO}_4$ , it forms a carboxylic acid 'C' (Molecular formula  $\text{C}_7\text{H}_6\text{O}_2$ ), which is also formed along with the yellow precipitate in the above reaction. Identify A, B and C and write all the reactions involved.

OR

(i) Formic acid reduces Tollen's reagent while other carboxylic acids do not. Justify.

1 + 4 = 5

(ii) Write the structural formula and names of four possible aldol condensation products from propanal and butanal. In each case indicate which aldehyde serves as a nucleophile and which as an electrophile.

### SECTION - E

33. Read the given passage and answer the following questions.

5 x 1 = 5

When alkyl halides are heated with sodium or potassium alkoxide ( $\text{RO}^-\text{Na}^+$ ) or ( $\text{RO}^-\text{K}^+$ ), ethers are obtained. This method is known as Williamson synthesis. It is a versatile method for the synthesis of both symmetrical and unsymmetrical ethers. The reaction, which occurs by the  $\text{S}_{\text{N}}2$  mechanism, involves nucleophilic displacement of halide ion from alkyl halide by alkoxide ion. While preparing unsymmetrical ethers, a proper choice of the reactants is necessary since alkoxide ion also acts as a base and can extract one of the  $\beta$ -hydrogen to form an alkene as the side product.

**Choose the correct answer for the following multiple choice type questions.**

(i) On boiling with concentrated HBr, phenyl ethyl ether will give

- A. phenol and ethyl bromide
- B. bromobenzene and ethanol
- C. phenol and ethane
- D. bromo benzene and ethane

A. tert-butyl alcohol and methyl iodide.  
B. tert-butyl iodide and methanol.  
C. iso-butylene and methyl iodide.  
D. iso-butylene and methanol

$$\text{CH}_3 - \underset{\substack{| \\ \text{Br}}}{\text{CH}} - \text{CH}_3 \xrightarrow[\text{KOH}]{\text{alc.}} \text{A} \xrightarrow[\text{Peroxide}]{\text{HBr}} \text{B} \xrightarrow{\text{CH}_3\text{ONa}} \text{C}$$

A. diethyl ether  
B. 1-methoxy propane  
C. isopropyl alcohol  
D. propylene glycol

A. Methoxy benzene  
B. Benzyl-p-nitrophenyl ether  
C. Methyl tert-butyl ether  
D. Di-tertiary butyl ether

A. Williamson synthesis is a method for preparation of only symmetrical ethers

B. Better results are obtained if the alkyl halide is secondary in nature.

C. Williamson synthesis occurs by  $S_N2$  mechanism.

D. Williamson synthesis occurs by  $S_N1$  mechanism.

# D.A.V. INSTITUTIONS, WEST BENGAL ZONE

## MID TERM EXAMINATION

SESSION – 2022-2023

**CLASS : XII**

**MAXIMUM MARKS: 80**

**SUBJECT : ECONOMICS**

**TIME : 3 HOURS**

### General instructions:

- All the questions in both the sections are compulsory. Marks for questions are indicated against each question.
- Question number 1 - 10 and 18 - 27 are very short-answer questions carrying 1 mark each. They are required to be answered in one word or one sentence each.
- Question number 11 - 12 and 28 - 29 are short-answer questions carrying 3 marks each. Answers to them should not normally exceed 60-80 words each.
- Question number 13 - 15 and 30 - 32 are also short-answer questions carrying 4 marks each. Answers to them should not normally exceed 80-100 words each.
- Question number 16 - 17 and 33 - 34 are long answer questions carrying 6 marks each. Answers to them should not normally exceed 100-150 words each.
- Answer should be brief and to the point and the above word limit be adhered to as far as possible.

### **Section A : Macro Economics**

1. If factor cost is greater than market price, then it means that:

- indirect taxes > subsidies
- indirect taxes = subsidies
- indirect taxes < subsidies
- indirect taxes  $\geq$  subsidies

1

**OR**

Market price and factor cost will be equal when there is:

- No direct tax.
- No indirect tax.
- No subsidy.
- both (b) & (c)

2. Read the following statements : Assertion (A) and Reason (R). Choose one of the correct alternative given below:

**Assertion (A):** Transfer income is not included in National Income.

**Reason (R) :** Transfer income is an unearned income.

Alternatives :

- Both Assertion (A) & Reason (R) are True & Reason (R) is the correct explanation of Assertion (A).
  - Both Assertion (A) & Reason (R) are True & Reason (R) is not the correct explanation of Assertion (A).
  - Assertion (A) is true but Reason (R) is False.
  - Assertion (A) is False but Reason (R) is True.
3. Identify the correct statement from the following statements.
- Intermediate goods have a derived demand, while final goods have direct demand.
  - Bread is always a consumer good.
  - Market price is always more than factor cost.
  - The concept of normal resident applies to individuals only.

1

1



4. Read the following statements : Assertion (A) and Reason (R). Choose one of the correct alternative given below:

**Assertion (A):** Currency money is also termed as Fiduciary Money.

**Reason (R) :** Under law, currency must be accepted for payment of all debts.

**Alternatives :**

- Both Assertion (A) & Reason (R) are True & Reason (R) is the correct explanation of Assertion (A).
  - Both Assertion (A) & Reason (R) are True & Reason (R) is not the correct explanation of Assertion (A).
  - Assertion (A) is true but Reason (R) is False.
  - Assertion (A) is False but Reason (R) is True.
5. Identify the incorrect statement from the following :
- Increase in CRR adversely affects the capacity of commercial banks to create credit.
  - Purchase of securities in the open market by the commercial banks reduces their credit creating power.
  - All financial institutions are banking institutions.
  - Size of money multiplier is given by the inverse of LRR.
6. Identify the correct sequence of alternatives given in Column II by matching them with respective items in Column I :

Column I	Column II
(a) Disinvestment	i) Govt. Expenditure > Govt. Receipts
(b) Capital Expenditure	ii) Value of Output – Value of Intermediate consumption
(c) Value added	iii) Capital Receipts
(d) Deficit Budget	iv) Loans granted to state govts,
(e) Borrowings	v) Withdrawl of existing investment

- (a) – (v), (b) – (iv), (c) – (ii), (d) – (i), (e) – (iii)
  - (a) – (iv), (b) – (v), (c) – (ii), (d) – (i), (e) – (iii)
  - (a) – (ii), (b) – (i), (c) – (iii), (d) – (iv), (e) – (v)
  - (a) – (iii), (b) – (iv), (c) – (ii), (d) – (i), (e) – (v)
7. Read the following passage carefully & answer the questions ( Q No. 7 to Q No. 10) on the basis of the same.

Sale of petrol & diesel cars during the year is rising particularly in cities. Rise in sale of cars leads to a rise in consumption of petrol & diesel. Both these fuels ( particularly diesel) cause emission of carbon dioxide. It increases environmental pollution. It adversely impacts welfare of people. Because increase in environmental pollution causes increase in expenditure on the maintenance of health. It also reduces to level of sustainable development implying loss of welfare of future generation.

Read the following statements : Assertion (A) and Reason (R). Choose one of the correct alternative given below:

**Assertion (A):** Environment pollution adversely affects the welfare of the people.

**Reason ( R) :** Environment pollution is an example of negative externality.

**Alternatives :**

- Both Assertion (A) & Reason (R) are True & Reason (R) is the correct explanation of Assertion (A).
- Both Assertion (A) & Reason (R) are True & Reason (R) is not the correct explanation of Assertion (A).
- Assertion (A) is true but Reason (R) is False.
- Assertion (A) is False but Reason (R) is True.

8. Read the following statements carefully & choose the **correct alternative** from the following : 1
- Statement 1 :** Increase in sale of cars during the year indicates increase in GDP  
**Statement 2 :** GDP includes the production of all goods and services produced in an economy in a year.
- (a) Both the statements are True.  
 (b) Both the statements are False.  
 (c) Statement 1 is True & Statement 2 is False.  
 (d) Statement 2 is True & Statement 1 is False
9. Which of the following is an example of transfer income? 1
- (a) Bonus  
 (b) Unemployment allowance  
 (c) Compensation from the employer  
 (d) All of the above
10. Sustainable development leads to 1
- a) Loss of welfare  
 b) Over utilization of resources  
 c) Compromise with the needs of future generation  
 d) None of the above
11. Giving reasons, classify the following goods into intermediate & final goods: 1.5+1.5
- a) Purchase of an air conditioner for use in shop.  
 b) Purchase of Machines and Equipment by a producer to be used in production.
12. Calculate Revenue Deficit, Fiscal Deficit & Primary Deficit from the following:
- | Items                                   | (Rs.in Crores) |       |
|---|----------------|-------|
| i) Revenue Expenditure                  | 22250          |       |
| ii) Capital Expenditure                 | 28000          | 1+1+1 |
| iii) Revenue receipts                   | 17750          |       |
| iv) Capital receipts (net of borrowing) | 20000          |       |
| v) Interest payments                    | 5000           |       |
| vi) Borrowings                          | 12500          |       |

**OR**

Read the following statements carefully. Write True or False with a reason.

- a) Borrowing by the government is a measure of revenue deficit.  
 b) Fiscal deficit is zero in case there is no provision of borrowing in the government budget. 1.5+1.5
13. a) 'Net factor income from abroad can never be negative'. Defend or refute the given statement with valid argument. 2+2  
 b) State the components of net factor income from abroad.
14. Explain, using a numerical example, how a reduction in Cash Reserve Ratio, affects the credit creation power of the banking system? 4

**OR**

Explain how :

- a) Sale of securities help in controlling inflation. 2+2  
 b) Fall in margin requirement helps in controlling deflation
15. When does the problem of over estimation of National Income occur? How can this problem be overcome? 2+2
16. a) State whether the following items will be included in National Income. Give reasons for your answers. 1+1+1
- i) Monthly allowance received by a college student from home.  
 ii) Expenditure incurred by a normal resident on foreign travel.  
 iii) Interest received on loans by government.

b) Calculate the value added by Industry C on the basis of following data :

Items	Rs. in crores	
i) Sale by Firm A to B	50000	3
ii) Value added by Firm B	10000	
iii) Value added by Firm D	9000	
iv) Sale by Firm C to D	70000	
v) Final sale	100000	

**(a+b) above OR (a+b) below**

a) Explain any two limitations of using GDP as measure/ index of welfare of a country.

b) Calculate i) Operating Surplus ii) Domestic Income 2

Items	Amount ( Rs. in crores)	
i) COE	2000	2+2
ii) Rent & interest	800	
iii) Indirect taxes	120	
iv) Corporation tax	460	
v) Consumption of fixed capital	100	
vi) Subsidies	20	
vii) Dividend	940	
viii) Undistributed profits	300	
ix) Net factor income to abroad	150	
x) Mixed Income	200	

17. a) Briefly describe how the govt, budget contributes to process of growth and stability. 3

b) Giving reasons, categorise the following into revenue & capital receipts:

- i) Receipt from sale of shares of a PSU
- ii) Borrowing from public
- iii) Profit of PSUs.

1+1+1

### SECTION – B : INDIAN ECONOMIC DEVELOPMENT

18. Arrange the following events in the correct chronological order : ( choose the correct arrangements) 1

- i) The year of great divide
- ii) Establishment of Tata Iron & Steel Company ( TISCO)
- iii) Introduction of railways by the British
- iv) Opening of suez canal

Alternatives :

- |                           |                           |
|---------------------------|---------------------------|
| a) (iv). (ii), (i). (iii) | b) (i), (iv), (iii), (ii) |
| c) (ii). (iii), (iv), (i) | d) (iii), (iv), (ii), (i) |

**OR**

The major cause of decay of handicraft industry during British rule :

- |                                  |                                 |
|----------------------------------|---------------------------------|
| a) Low priced machine made goods | b) Discriminatory tariff policy |
| c) Both (a) & (b)                | d) Neither (a) nor (b)          |

1

19. Read the following statements : Assertion (A) and Reason (R). Choose one of the correct alternative given below:

**Assertion (A):** India became an exporter of primary products and an importer of finished consumer and capital goods produced in Britain.

**Reason (R):** Restrictive policies of commodity production, trade and tariff pursued by the colonial government adversely affected the structure, composition and volume of India's foreign trade.

Alternatives :

- a) Both Assertion (A) & Reason (R) are True & Reason (R) is the correct explanation of Assertion (A).
  - b) Both Assertion (A) & Reason (R) are True & Reason (R) is not the correct explanation of Assertion (A).
  - c) Assertion (A) is true but Reason (R) is False.
  - d) Assertion (A) is False but Reason (R) is True.
20. Identify the incorrect statement from the following statements. 1
- a) Land reforms were successful in the states of Kerala and West Bengal.
  - b) According to the IPR 1956, the industries were classified into 3 categories.
  - c) There was risk of pest attack under Green Revolution.
  - d) Socialist economy was adopted by India as an economic system after independence.
21. Arrange the following events in the chronological order : 1
- i) Constitution of Karve Committee                      ii) Beginning of First Five Year Plan
  - iii) Establishment of Planning Commission          iv) Establishment of NITI Aayog

Alternative :

- a) (i), (ii), (iv), (iii)                                      b) (ii), (i), (iii), (iv)
  - c) (ii), (iii), (iv), (i)                                      d) (iii), (ii), (i), (iv)
22. In the following question, a statement of Assertion is followed by a statement of Reason. Choose the correct option out of the following options: 1
- Assertion (A):** Spread of education is necessary to control the population growth.
- Reason (R):** Human Capital formation decreases quality of life.
- a) Both Assertion (A) and Reasoning (R) are true and (R) is the correct explanation of Assertion (A).
  - b) Both Assertion (A) and Reasoning (R) are true and (R) is not the correct explanation of Assertion (A).
  - c) Assertion (A) is true but Reason (R) is false.
  - d) Assertion (A) is false but Reason (R) is true.
23. Which of the following source of Human Capital Formation exhibits high cost of living and transportation? 1
- a) Expenditure on health                                      b) Expenditure on education
  - c) Expenditure on migration                                      d) Expenditure on information

Read the following passage carefully & answer the questions ( Q No. 24 to Q No. 27) on the basis of the same.

India's growth path grabbed the attention of the world after the new Economic Policy in 1991. Economic reforms included stabilization & structural reforms.

Liberalisation led to the breakdown of the 'License Raj'. Reforms were introduced in various sectors with the aim of decreasing government intervention. It was done in order to build a new framework to make markets more competitive.

India's low foreign exchange reserve was one of the reasons for introduction of reforms. At present India enjoys a leading position in term of foreign exchange reserves across the world. These reforms completely transformed the Indian economy. However, today many economists feel the need for a new set of reforms.

Read the following statements : Assertion (A) and Reason (R). Choose one of the correct alternative given below:

24. **Assertion (A):** Structural reforms aimed at improving the efficiency of the economy & increasing its international competitiveness,  
**Reason ( R ) :** Structural reform measures are the short term measures intended to correct the weaknesses of the economy.
- Both Assertion (A) & Reason (R) are True & Reason (R) is the correct explanation of Assertion (A).
  - Both Assertion (A) & Reason (R) are True & Reason (R) is not the correct explanation of Assertion (A).
  - Assertion (A) is true but Reason (R) is False.
  - Assertion (A) is False but Reason (R) is True
25. Who as a finance minister is known as the prime architect of economic reforms in India. ( fill up the blank with the correct alternative) 1
- Dr Manmohan Singh
  - P.V. Narshima Rao
  - Shivraj Patil
  - K.C.Rastogi
26. Which o the following is not the reason for the introduction of economic reforms in 1991? 1
- Decrease in foreign exchange reserves
  - High rate of inflation
  - Balance of payment crisis
  - Increase in exports
27. Read the following statements carefully & choose the **correct alternative** from the following :
- Statement 1 :** Economic reforms of 1991 created a growth path where all the sectors did not grow at the same pace. 1
- Statement 2 :** Agriculture sector after the introduction of economic reforms of 1991 experienced accelerating growth rate.
- Both the statements are True.
  - Both the statements are False..
  - Statement 1 is True & Statement 2 is False.
  - Statement 2 is True & Statement 1 is False.
28. What objectives did the British intend to achieve through their policies of infrastructure development in India? 3
29. What are the main problems of human capital formation in India? Explain any three. 3
- OR**
- How is human capital formation helpful in reducing inequality of income?
30. (a) When was India's first official census operation undertaken? 4
- (b) Write any three positive contribution made by the British in India. Discuss.
31. Agriculture sector appears to be adversely affected by the reform process. Why? 4
- OR**
- a) compare the role of RBI before and after the new economic policy. 2
- b) Distinguish between Tariff & NonTariff barriers. 2
32. Discuss the following as a source of human capital formation: 4
- Expenditure on health.
  - Expenditure on migration
33. Discuss in brief the principal elements of IPR – 1956. 6
- OR**
- Though public sector is very essential for industries, many public sector undertakings incur huge losses and are a drain of the economy's resources. Discuss the usefulness of public sector undertakings in the light of this fact.
34. a) Why is it necessary to become a member of WTO? 2
- b) India has certain advantages which makes it a favourite outsourcing destination, What are these advantages? 4

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# **D.A.V. INSTITUTIONS, WEST BENGAL ZONE**

## **MID-TERM EXAMINATION**

**SESSION: 2022 – 2023**

**Class: XII**

**Maximum Marks: 80**

**Subject: English**

**Time: 3 Hours**

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General Instructions:

1. This Question Paper contains THREE sections.
2. Separate instructions are given with each section and question, wherever necessary.
3. Do not exceed the prescribed word limit while answering the questions.
4. The Question Paper has in all 8 Questions and 8 Printed Pages.

**I.**

### **SECTION A : READING SKILLS**

**10**

**Read the passage given below:**

1. A stout old lady was walking with her basket down the middle of a street in Petrograd to the great confusion of the traffic and with no small peril to herself. It was pointed out to her that the pavement was the place for pedestrians, but she replied 'I'm going to walk where I like. We have got liberty now'. It did not occur to the dear old lady that if liberty entitled the pedestrian to walk down the middle of the road, then the end of such liberty would be universal chaos. Everybody would be getting in everybody else's way, and nobody would be anywhere. Individual liberty would have become social anarchy.
2. There is a danger of the world getting liberty drunk in these days like the old lady with the basket and it is just as well to remind ourselves of what the rule of the road means. It means that in order that the liberties of all may be preserved the liberties of everyone must be curtailed. When the policeman at Piccadilly Circus steps into the middle of the road and puts out his hand, he is not the symbol of tyranny but of liberty. You may not think so. You may, being in a hurry, and seeing your car pulled up by this insolence of office, feel that your liberty has been outraged. How dare this fellow interfere with your free use of the public highway? Then if you are a reasonable person, you will reflect that if he did not interfere with you, he would interfere with no one, and the result would be that Piccadilly Circus would be a maelstrom that you would never cross at all. You have submitted to a curtailment of private liberty in order that you may enjoy a social order which makes your liberty a reality.
3. Liberty is not a personal affair only but a social contract. It is an accommodation of interests. In matters which do not touch anybody else's liberty, of course, I may be as free as I like. If I choose to go down the road in a dressing gown, who shall say me nay? You have the liberty to laugh at me, but I have the liberty to be indifferent to you. And if I have a fancy for dying my hair or waxing my moustache or wearing an overcoat and sandals or going to bed late or getting up early, I shall follow my fancy and ask no man's permission. I shall not inquire of you whether I may eat mustard with my onion. And you will not ask me whether you may follow this religion or that, whether you may prefer Ella Wheeler Wilcox or Wordsworth.
4. In all these and thousand other details you and I please ourselves and ask no one's leave. We have a whole kingdom in which we rule alone, can do what we choose, be wise or ridiculous, harsh or easy, conventional or odd. But directly we step out of that kingdom, a personal liberty of action becomes qualified by other people's liberty. I might like to practise on the trombone from midnight till three in the morning. If I went on to the top of Everest to do it, I could please myself, but if I do it in my bedroom my family will object, and if I do it in the streets the neighbours will remind me that my liberty to blow the trombone must not interfere with their liberty to sleep in quiet.
5. There are a lot of people in the world, and I have to accommodate my liberty to their liberties. We are liable to forget this, and unfortunately, we are much more conscious of the imperfections of others in this respect than of our own. A

reasonable consideration for the rights of feelings of others is the foundation of social conduct.

6. It is in these small matters of conduct and the observance of the rule of the road, that we pass judgement upon ourselves, and declare that we are civilized or uncivilised. The great moments of heroism and sacrifice are rare. It is the little habits of common place that make up the great sum of life and sweeten or make the journey bitter.

(Adapted from an essay by George Orwell)

**On the basis of your reading of the passage answer the following questions choosing the most appropriate option: 1x10**

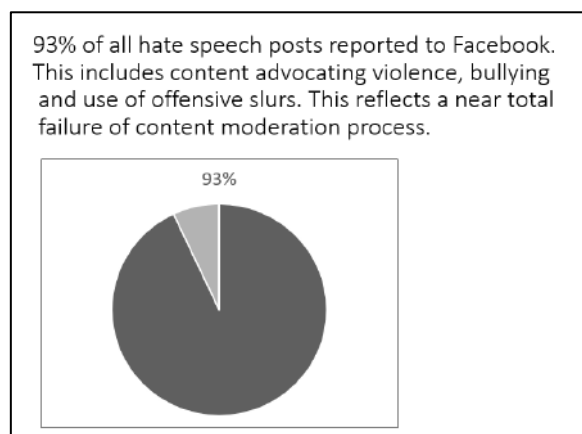
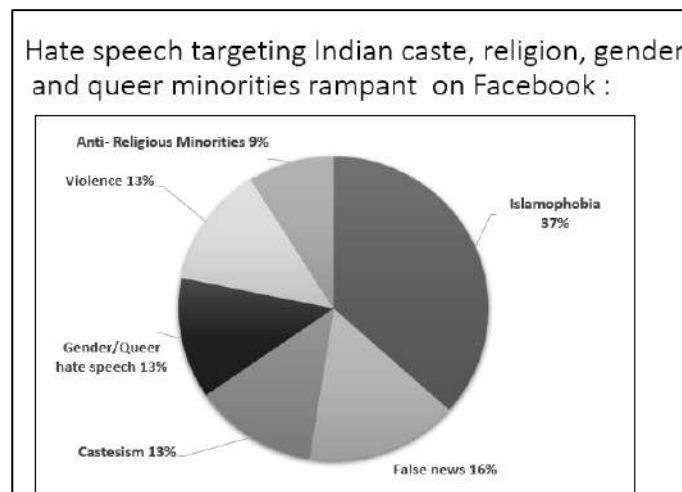
- |        |  |   |
|--------|--|---|
| (i)    | In the old lady's reply, 'We have got liberty now' liberty implies:                                    | 1 |
|        | (A) Women's emancipation   |   |
|        | (B) Spiritual enlightenment  |   |
|        | (C) Democratic/ political freedom  |   |
|        | (D) Freedom of speech  |   |
| (ii)   | What is the rule of the road according to the author?  | 1 |
|        | (A) Not to walk in the middle of the road.   |   |
|        | (B) To be considerate towards others.  |   |
|        | (C) Not to overtake others.  |   |
|        | (D) Not to drive on the pavement.  |   |
| (iii)  | What can lead to social anarchy?   | 1 |
|        | (A) Liberty to laugh.  |   |
|        | (B) Liberty to practice human rights.  |   |
|        | (C) Individual liberty.  |   |
|        | (D) Carrying liberty too far.  |   |
| (iv)   | What is the major danger in today's world?   | 1 |
|        | (A) Of the society behaving in a rash manner.  |   |
|        | (B) Of the society living poorly.  |   |
|        | (C) Of the people not cooperating with others.   |   |
|        | (D) Of the society being obsessed with the idea of liberty.  |   |
| (v)    | When we are in a hurry and are stopped by a policeman, we may interpret his action as Not an act of    | 1 |
|        | (A) Tyranny  |   |
|        | (B) Insolence  |   |
|        | (C) Democracy  |   |
|        | (D) Liberty  |   |
| (vi)   | Our liberty becomes a reality when personal liberty is:  | 1 |
|        | (A) Downsized  |   |
|        | (B) Exercised  |   |
|        | (C) Permitted  |   |
|        | (D) Enhanced   |   |
| (vii)  | For which of the following does the author need permission   | 1 |
|        | (A) To go to Everest in the middle of the night .  |   |
|        | (B) To blow the trombone in the middle of the night in Everest.  |   |
|        | (C) To blow the trombone in the middle of the night in the streets.                                    |   |
|        | (D) To ridicule those who prefer Wordsworth.   |   |
| (viii) | The word 'maelstrom' as used in Para -2 can be best replaced with                                      | 1 |
|        | (A) Whiplash   |   |
|        | (B) Rampant  |   |
|        | (C) Hustle   |   |
|        | (D) Pandemonium  |   |
| (ix)   | We often forget that we must accommodate the liberties of others because we are more conscious of_____ | 1 |
| (x)    | What according to the author makes the journey of life either sweet or bitter?                         | 1 |

## II Read the passage given below:

India has rapidly outpaced The United States as the largest global market for Facebook and it's growing faster each day. The powerful influence that social media platforms like Facebook have had on everything from elections to civil society is unlike anything seen before in human history. This report released in 2019 from Equality Labs presents a crucial analysis and summary of one of the gravest forms of this influence found throughout the Facebook India platform-Hate Speech and Disinformation.

The particularly alarming pitfalls and failures of Facebook India's content moderation policies and their implementation are examined; and numerous disturbing examples of real hate speech and calls to violence against minorities are presented. With an estimated 350million plus Indian caste, religion, gender and queer minorities currently at risk from this hate speech in India, this report provides timely and expert analysis and solutions. Informed partly by actual affected users, the insight and answers in the report provide a road map for stakeholders from multiple vantage points to help counteract a looming human rights disaster. The authors warn that without urgent intervention such hate speeches are likely to be weaponized as a trigger for large scale communal violence in India.

Procedures for reporting these activities to Facebook are opaque, increasing people's vulnerability and safety concerns for the persons affected. Most hate speech violations on Facebook India are Islamophobic with calls to violence similar to content that led to the genocide in Myanmar.



While hate speech almost completely remains online or is reinstated by moderators on Facebook an increasing number of minority users accounts are being banned or removed entirely.

Content moderation of hate speech in India is complex, requiring relevant content and collaborative expertise from civil society and advocates. Facebook cannot solve this problem in a vacuum. Transparency, accountability and resource allocation are the keystones required for an effective and durable solution to the exponential expansion of hate speech enabled by social media platforms like Facebook. The result will be a safer and more welcoming platform for users in a growing market.



**On the basis of your understanding of the passage answer the questions given below 1x10 by choosing the most appropriate option:**

- |        |  |   |
|--------|--|---|
| (i)    | Most hate speech violations on Facebook are about:   | 1 |
|        | (A) Reservation policy based on caste  |   |
|        | (B) Prejudice against a particular religion  |   |
|        | (C) Gender disparities   |   |
|        | (D) Violence against women   |   |
| (ii)   | Hate speech targeting fake news are:   | 1 |
|        | (A) Maximum  |   |
|        | (B) More than Islamophobic   |   |
|        | (C) Lesser than Anti- Religious Minorities   |   |
|        | (D) More than Casteism   |   |
| (iii)  | In absence of proper intervention, the authors foresee:  | 1 |
|        | (A) A rise in hate speeches  |   |
|        | (B) A failure of content management  |   |
|        | (C) Large -scale communal violence   |   |
|        | (D) Caste weaponization  |   |
| (iv)   | Which of the following statement can NOT be inferred from the passage  | 1 |
|        | (A) India has outpaced United States in Facebook content moderation.   |   |
|        | (B) Many of minority users accounts are being removed.   |   |
|        | (C) Content moderation of hate speech in India is complex.   |   |
|        | (D) Hate speeches can trigger some form of violence.   |   |
| (v)    | Vulnerability and safety concerns for the affected persons increase as the procedure for reporting are                                     | 1 |
|        | (A) Direct   |   |
|        | (B) Secretive  |   |
|        | (C) Unclear  |   |
|        | (D) Impossible   |   |
| (vi)   | Which of the following are effective and durable solution to the exponential expansion of hate speech enabled by social media platforms?   | 1 |
|        | (A) Content moderation, Accountability and Resource moderation   |   |
|        | (B) Accountability, Transparency and Resource allocation   |   |
|        | (C) Filling the vacuum, Collaborative expertise and Civil society  |   |
|        | (D) Advocacy, Accountability and Access  |   |
| (vii)  | What comes in Facebook India's hate speech?  | 1 |
|        | (A) Bullying   |   |
|        | (B) Disrespectful language   |   |
|        | (C) Vengeance  |   |
|        | (D) Both (A) & (B)   |   |
| (viii) | The phrase 'vantage viewpoint' as used in the passage can be best replaced with  | 1 |
|        | (A) Advantages   |   |
|        | (B) Factors  |   |
|        | (C) Stance   |   |
|        | (D) Instances  |   |
| (ix)   | According to the passage how is the report presented by Equality Lab significant?  | 1 |
| (x)    | ' <u>The result</u> will be a safer and more welcoming platform for users in a growing market'. What action will bring about 'The result'? | 1 |

### SECTION B : WRITING SKILLS

- |            |  |          |
|------------|--|----------|
| <b>III</b> | (i) St. Joseph Public School, Ranchi has decided to organize a workshop to raise awareness on the importance of mental health. The workshop will be conducted by the school counselor. You are Rounak/ Rakhi , President of the Wellness Cell of your school. Write a notice in not more than 50 words, informing the students of class XI & XII about the workshop. | <b>5</b> |
|------------|--|----------|

**OR**

You are Supratim/Supriti, Head Boy/Girl of St. Stephens Public School, Bhubaneswar.

Your school is celebrating Grandparents' Day next week. Write a notice in 50 words to be put on the notice board informing students of the celebration and requesting them to be present with their grandparents.

(ii) You are Kishore / Karuna, the Sports Secretary of Sunshine Public School, Varanasi. The school is organising Sports Day and wishes to invite Mr. Rajkumar Gupta, a noted Badminton player to grace the occasion and give away the prizes. Write a formal invitation in 50 words. **5**

**OR**

Your grandparents are completing 50 years of their marriage. You and your cousins have decided to celebrate their anniversary in a grand fashion. Write a suitable invitation for relatives and family friends in 50 words.

(iii) A pharmaceutical company requires sales officers at various locations in India. The candidate should be a science graduate. The job requires selling the company's products to hospitals and private practitioners. Write an application for the job along with your resume, addressed to the Manager, Neo-Pharma, Ansari Road, New Delhi **5**

**OR**

Recently, you travelled from Kolkata to New Delhi in Rajdhani express. To your utter dismay, you found the coach infested with pests. Write a letter to the editor of The Hindu, drawing the attention of the concerned authority, to the prevailing unhygienic condition of the Indian Railways asking for remedial action. You are Suraj/Saroj of Carol Bagh, New Delhi.

(iv) Morning assembly is an integral part of your school. It serves a number of purposes apart from being the platform for dissemination of important information. Write an article in 120-150 words, on the pivotal role of morning assembly. You are Neeta/ Anil of class XII. **5**

**OR**

The traffic police of Chennai has launched a special drive against pollution-causing vehicles. This has led to traffic jams at important intersections. Write a report in 120-150 words, to be published in 'Chennai Times'. You are Puja /Pawan, Staff Correspondent.

#### **SECTION – C : LITERATURE**

**IV** (i) Read and answer the six questions that follows **any one of the extracts:** **1x6**

*'And such too is the grandeur of the dooms We have imagined for the mighty dead; All lovely tales that we have heard or read; An endless fountain of immortal drink, Pouring unto us from the heaven's brink.'*

(1) Pick the quote that matches best with: 'And such too is the grandeur of the dooms We have imagined for the mighty dead' **1**

(A) In the night of death, hope sees a star and listening love can hear the rustle of a wing.

(B) When a great man dies for years the light he leaves behind him shines on the paths of men.

(C) Endings are not always bad, most times they are just the beginning in disguise.

(D) Cowards die many times before their death the valiant never taste of death but once.

(2) 'An endless fountain of immortal drink,' suggests- **1**

(A) Inspirational deeds of great men

(B) A ceaseless series of dreams

(C) An elixir source of delight

(D) A bounty of love

(3) Pick the statement that stands true to the above extract **1**

(A) Death is inevitable and everyone faces it no matter how mighty.

(B) Immortality is achieved in heaven when mighty people die.

(C) Legendary heroes and their heroic deeds instil inspiration in us.

(D) The greatness of the mighty dead is beyond imagination.

(4) The poetic device used in 'immortal drink' is **1**

(A) Alliteration

(B) Personification

(C) Transferred epithet

(D) Simile

- (5) What does Keats consider as the immortal drink? **1**  
 (6) How is grandeur associated with death? **1**

**OR**

**1x6**

*‘Driving from my parent’s home  
 to Cochin last Friday morning, I saw my  
 mother, beside me, doze, open mouthed,  
 her face ashen like that  
 of a corpse and realised with pain  
 that she was as old as she looked but  
 soon put that thought away, ...’*

- (1) Choose the book title that perfectly describes the poet’s mother **1**  
 (A) You are only old once!  
 (B) The gift of years.  
 (C) Somewhere towards the end.  
 (D) The book you wish your parents had read.
- (2) Which of the following correctly describes the poet’s feelings when she sees her mother? **1**  
 (A) Regret  
 (B) Love  
 (C) Resignation  
 (D) Upset
- (3) The poet looked out of the car to put away painful thoughts. However, what she saw \_\_\_\_\_ her pain. **1**  
 (A) relieved  
 (B) heightened  
 (C) overlooked  
 (D) reduced
- (4) Choose the option that displays the same literary device as used in the extract to describe the mother’s aging face **1**  
 (A) Just as I had this thought, she appeared...  
 (B) My thoughts were as heavy as lead that evening...  
 (C) I think like everyone else who is old ...  
 (D) I seem to think aloud when ...
- (5) Why does the poet use words ‘ashen’ and ‘corpse’ to describe her mother’s countenance? **1**
- (6) What ‘pain’ did the poet realise? **1**

(ii) Read and answer the four questions that follows **any one of the extracts:** **1x4**

*‘The Maharaja was thrilled beyond measure when he killed his first tiger. He sent for the State astrologer and showed him the dead beast. “What do you say now?” he demanded. “Your majesty may kill ninety-nine tigers in exactly the same manner. But...” the astrologer drawled. “But what? Speak without fear.”’*

- (1) The reason for the Maharaja’s joy was **1**  
 (A) He thought he had disapproved the astrological prediction.  
 (B) He had been successful in doing what the astrologer had asked him to.  
 (C) He could now take care of his kingdom without fear.  
 (D) He had saved the kingdom from a dangerous tiger.
- (2) Which characteristics are apt about the Maharaja in the following context: **1**  
 “What do you say next?”  
 (A) Vaunting & Swaggering  
 (B) Modest & Diffident  
 (C) Naïve & Dependent  
 (D) Unassuming & Swaggering
- (3) What was the astrologer hesitant to speak up? **1**
- (4) What does the Maharaja’s ability to kill a tiger display about his skill? **1**

**OR**

**1x4**

*“This man will live in spite of all,” he said to Hana and sighed.  
 The young man woke, so weak, his blue eyes so terrified when he perceived*

where he was, that Hana felt compelled to apologise. She herself served him, for none of the servants would enter the room.'

(1) His blue eyes reflected fear because ...

1

(A) He was injured

(B) He was too young to be alone in the room

(C) He had done something wrong

(D) He was in an enemy's house

(2) Choose the correct option with respect to the statements given below.

1

Statement 1: The servants had refused to enter the room.

Statement 2: The servants were prejudiced against the American soldier.

(A) Statement 1 can be inferred but Statement 2 cannot be inferred from the story.

(B) Statement 1 cannot be inferred but Statement 2 can be inferred from the story.

(C) Both Statement 1 and Statement 2 can be inferred from the story.

(D) Both Statement 1 and Statement 2 cannot be inferred from the story.

(3) What does 'In spite of all', refer to in the above lines?

1

(4) Why did Hana feel compelled to apologise?

1

(iii) Read and answer the six questions that follows **any one of the extracts:**

1x6

*'...it was a big and confusing forest which he had gotten into. He tried, to be sure, to walk in a definite direction, but the paths twisted back and forth so strangely! He walked and walked without coming to the end of the wood, and finally he realised that he had only been walking around in the same part of the forest. All at once he recalled his thoughts about the world and the rattrap. Now his own turn had come. He had let himself be fooled by a bait and had been caught. The whole forest, with its trunks and branches, its thickets and fallen logs, closed in upon him like an impenetrable prison from which he could never escape.'*

(1) How would you characterise the mood of the above extract?

1

(A) mysterious, restful

(B) ominous, despairing

(C) thoughtful, whimsical

(D) philosophical, focused

(2) By what bait had the peddler been fooled?

1

(A) He had chosen to take the 'safe' forest route.

(B) He had decided to avoid the public highway.

(C) He had stolen money from the trusting crofter.

(D) He didn't realize the power of his rattrap analogy

(3) The consequence of 'his own turn' having come was that the peddler had \_\_\_\_\_

1

(A) got irreversibly lost in the thick, warped forest.

(B) been fooled and imprisoned in a hopeless prison.

(C) been walking around the same part of the forest.

(D) walked the whole forest without finding the end.

(4) What literary device is used in the expression 'All at once he recalled his thoughts about the world and the rattrap'?

1

(A) Allusion

(B) Allegory

(C) Imagery

(D) Simile

(5) Why had the peddler 'gotten' into the forest?

1

(6) How did he ultimately get out of the forest?

1

**OR**

*'Thus, piece by piece, he built a swimmer. And when he had perfected each piece, he put them together into an integrated whole. In April he said, "Now you can swim. Dive off and swim the length of the pool, crawl stroke." I did. The instructor was finished. But I was not finished. I still wondered if I would be terror-stricken when I was alone in the pool. I tried it. I swam the length up and down. Tiny vestiges of the old terror would return.'*

- (1) The phrase 'piece by piece' refers to: 1  
 (A) one along with the other  
 (B) very gradually  
 (C) integrated whole  
 (D) completely
- (2) Why was the instructor finished? 1  
 (A) He had made Douglas a confident swimmer.  
 (B) He had trained Douglas to swim.  
 (C) He had washed his hands off Douglas.  
 (D) The scheduled training period was over.
- (3) Why was Douglas not finished? 1  
 (A) He was still scared of water.  
 (B) He had not performed well in his training.  
 (C) He wanted the instructor to continue his training.  
 (D) He was still doubtful if he had overcome his fear.
- (4) What does the term 'tiny vestiges' mean? 1  
 (A) Little remnants  
 (B) Old fear  
 (C) Drops of water  
 (D) Old memories
- (5) What 'pieces' did the instructor put together? 1
- (6) How did Douglas ultimately get rid of the tiny vestiges of terror? 1

**V Answer any five of the following questions in 40-50 words each: 2x5**

- (i) Industries can be a boon or a bane for the society. Justify with reference to the bangle making factories in Firozabad.
- (ii) How is mother-tongue important for any individual? Answer with reference to 'The Last Lesson'.
- (iii) Mention two long term consequences of the misadventure that Douglas talks about in the lesson 'Deep Water'.
- (iv) It is often said 'Kindness pays, rudeness never'. How is kindness rewarded in the story 'The Rattrap'?
- (v) Bring out the contrasting images in the poem 'My Mother at Sixty-six'.
- (vi) How does the poem 'A Thing of Beauty' convey the poet's faith in the divine?

**VI Answer any two the following questions in 40-50 words each: 2x2**

- (i) Point out the intersection of time and space in the story 'The Third Level'.
- (ii) 'It was celebration time for all the tigers inhabiting Pratibandapuram'. How does this statement prove ironical?
- (iii) "As a Japanese, could you not combine these two foreign elements?" What two foreign elements is the General talking about?

**VII Answer any one in 120-150 words: 5**

'From the frying pan into the fire', how is this idiom applicable to Saheb's life?

OR

Quiet introspection is the need of the hour to save the earth. Examine the statement with reference to the poem 'Keeping Quiet'.

**VIII Answer any one in 120-150 words: 5**

Pearl S. Buck weaves a story where the protagonist is faced with conflict of values. How is he successful in betraying none?

OR

What explanation would you offer regarding Sam's letter reaching Charley?

\*\*\*\*\*

**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**

**MID TERM EXAMINATION**

**(SESSION – 2022-2023)**

**CLASS: XII**

**SUBJECT: Entrepreneurship**

**MAX. MARKS :70**

**TIME: 3Hours**

1. Rani was selling vegetables in her cart along with her mother. They were able to earn a profit of around Rs.200 every day. Even though the amount was not substantial it was sufficient for a decent living. Tani often noticed that nuclear families where both husband and wife go to work find it difficult to cook as cleaning and cutting vegetables took a lot of time, so as an entrepreneur she started gathering information regularly and developed a new product line of selling cut vegetables in hygienic packaging. Tani used \_\_\_\_\_ trend to spot this idea. 1  
Or,  
\_\_\_\_\_ Can be described as convenient frames of reference for streamlining the process of generation of ideas.
2. Exploring opportunities in the environment is a process involving various steps. Arrange the steps in correct order. 1
  - 1) Evaluating the ideas received from different sources to find a creative solution.
  - 2) Identifying a product or service through innovation.
  - 3) Opportunity spotting by analysing the needs that exist in the environment.
  - 4) Setting up a project and nurturing it to success.
  - A. 1,2,3,4
  - B. 3,1,2,4
  - C. 2,3,4,1
  - D. 1,4,3,2
3. Using social media or online surveys to get input on what customers are thinking, buying, craving and doing as well as paying attention to ratings and review sites -- not just what customers are saying about the business, but what they're saying about the competitor's business. 1  
The method discussed above relates to which important way of trend spotting?
  - A. Read trend.
  - B. Watch trend.
  - C. Talk trend.
  - D. Think trend.
4. It includes the process of constructing through the idea, innovating the concept, developing the process, and bringing the concept to reality. 1  
Identify the process described here: -
  - A. Idea germination.
  - B. Idea generation.
  - C. Problem identification.
  - D. Product identification.
5. ZX industries has been one of the leading companies in Camera manufacturing industry. The company decided to launch a new Model L1 which will have inbuilt latest software to encourage hands free use and enhance the customer experience through 3D photos. They are also looking into ideas to use eco-friendly recyclable materials for the body of the camera which will cause less environmental damage. Identify the two factors of PESTEL model from the above case study. 1
  - A. Economic, Social
  - B. Ecological, Technological
  - C. Legal, Economic
  - D. Social, Political.

6. From the following identify the statement(s) most appropriate or relevant to a 'Pvt. Ltd.'

(I) has a minimum of two and a maximum of forty members excluding its past and present employees.

(II) prohibits an invitation to the public to subscribe for any shares or debentures of the company.

(III) has a minimum paid up capital of five lakh rupees.

(IV) restricts the right of its members to transfer shares.

A. (I) and (III).

B. (II), (III) and (IV)

C. (II) and (IV).

D. All the above are relevant

7. Sourav started a factory for manufacturing laptop bags. For that he made the instruction plan describing the details that were needed for the operation of machines by the workers.

The type of 'business plan' described in the above para is \_\_\_\_\_

Or,

State whether the following statement is 'true' or 'false'.

Proforma investment decisions relates to how the enterprise funds are required in different assets so that the enterprise is able to earn the highest possible returns on investment.

8. Identify the correct sequence of alternatives given in Column II by matching them with respective terms in Column I

Column – I	Column – II
a) if the number of buyers is less.	(i) Short/direct channel of distribution.
b) Selling such an item or product which is of highly perishable in nature.	(ii) long or indirect distribution channel
c) Selling products for which cost is pre-determined and there is no scope for alteration.	(iii) Short/direct channel of distribution

A. i, iii, ii

B. ii, i, iii

C. iii, ii, i

D. i, ii, iii

9. "This document in the financial plan of a business helps the enterprise to reflect the position of the business at the end of its first year". (Choose the correct option from below)

A. Proforma cash flow.

B. Proforma income statement.

C. Proforma balance sheet.

D. Proforma financing decisions.

10. In the following question, the Assertion (A) and Reason (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following:

**Assertion:** In a partnership firm every partner is principal as well as agent of other partners and of the firm.

**Reason:** The business of partnership can be carried on by all the partners or any one of them acting for all.

A. Both the Assertion and the Reason are correct, and the Reason is the correct explanation of the Assertion.

B. Both the Assertion and the Reason are correct, but the Reason is not the correct explanation of the Assertion.

C. Assertion is true but the Reason is false.

D. Both the statements are false.

11. 'Girl' of Amul, 'Maharaja' of Air India, 'Ronald' of McDonald etc. are example of:-
- A. Brand name.
  - B. Logotype
  - C. Brand mark.
  - D. None of these.

Or,

It is like naming a new-born child. Mercedes, Woodland, Asian Paints, Pepsi, Maggie, Uncle Chips etc. are few examples of the \_\_\_\_\_.

- A. Brand Mark.
  - B. Trade Mark.
  - C. Brand Name.
  - D. Logo.
12. Vinit innovated a new pen which can read any text when placed on top of a page or newspaper which will definitely help blind and old people who are unable to read, He wishes to legally protect his product. He can get a
- A. Patent
  - B. Copyright
  - C. Trademark
  - D. Geographical Indication

Or,

In 2018, a Delhi court directed Chhattisgarh's Sun Cable Network and Rajasthan based Brij network to pay Rs.20 lakh by each to T-Series Pvt-Ltd. for unauthorised broadcast of its audio and video copies on their cable network. The court directed both network operators to hand over to T-Series all the audio and video tapes. What intellectual property right of T-Series has been infringed here?

- A. Patent
  - B. Copyright
  - C. Trade secret
  - D. Trademark
13. For Personal selling Companies appoint salesperson to contact prospective buyers and create awareness about the company's product. Thus, a salesperson needs to be:
- A. Be persuasive.
  - B. Be a service provider.
  - C. Be informative.
  - D. All of above.

Or,

A 'tagline' is a small amount of text which serves to clarify a thought and is designed with a dramatic effect. They can come in the form of:

- A. Questions.
  - B. Statements.
  - C. Exclamations.
  - D. All of the above.
14. Which of the following statement is incorrect regarding Indirect sales approaches/strategy:
- (I) To apply more subtle techniques.
  - (II) Talk about each feature of the competition's product and compare it to theirs.
  - (III) Referred as "negative selling".
  - (IV) More sophisticated, sales strategy that requires research and analysis of the competition.
- A. I and III
  - B. II and III
  - C. I and IV
  - D. All of these.



14(Or),

If the bar is set too high, we set ourselves up for failure and disappointment and many of us, recognising this in advance, will just stop trying.

The highlighted statement refers to a particular rule of Goal setting. Identify that rule from the list of given options.

- A. Business goals need to be achievable stretches.
- B. Business goals need to be relevant.
- C. Business goals need to be actionable.
- D. None of these.

15. **State whether the following statement is 'true' or 'false'.**

B & H is a leading advertising firm. They recruit new graduates through college placements. During an interview, a student was asked to list the four rules for planning any advertising activity, he replied that the following is required: Aim, Target, Desire, Competitors.

16. Corporate entertainment is basically a part of which of the following form of Sales promotion:

- A. Business promotions.
- B. Trade promotions.
- C. Sales force promotions.
- D. None of these.

17. Given below are types of mergers with examples of each. Match them correctly

	Column A- Types of Mergers		Column B- Examples
i.	Vertical Merger	a.	A shoe manufacturer acquires paper making company.
ii.	Market Extension merger	b.	Allahabad bank merged with Indian bank
iii.	Conglomerate	c.	A dress designing company acquires cloth manufacturing firm.
iv.	Horizontal Merger	d.	Hindustan Unilever company acquired Lakme, it helped HUL to enter cosmetic market.

- A. i-a, ii-b, iii- c, iv-d
- B. i-c, ii-d, iii- a, iv-b
- C. i-a, ii-c, iii- b, iv-d
- D. i-c, ii-b, iii- a, iv-d

18. Citicorp and Travellers Insurance group merged to form a new company called Citigroup. This form of merger is called \_\_\_\_\_.

19. **State whether the following statement is 'true' or 'false'.**

Manufacturers use the product franchise to govern the way a retailer distributes their products under business franchise opportunity ventures.

20. **NAME THE TERMS USED FOR THE FOLLOWING TYPES OF ACQUISITION.**

A private company acquires a public company. \_\_\_\_\_.

Or,

The purchasing company will become a subsidiary of the purchased company.

This occurs very rarely. \_\_\_\_\_.

21. It is another item that is outlined in the franchise agreement which includes the types and timeframes regarding various maintenance items and upgrades that must be made to the location. Identify the ingredient of franchise agreement referred here. 2
- Contract explanation
  - Proprietary statements
  - Ongoing site maintenance
  - Operations manual
22. Apart from applying creativity to develop new products and services state four other ways to generate creative ideas? 2

Or,

How can the task of Problem identification help an entrepreneur?

23. **Source based question** 2
- Source – Entrepreneur magazine – August, 2020

‘A recent survey conducted jointly by FICCI and Indian Angel Network revealed that 70 percent of start-ups across the country have been impacted by COVID-19 while as many as 12 per cent have had to halt operations altogether. These are difficult times that no one was prepared to deal with. The prolonged lockdown had a massive impact on the start-up ecosystem. Given that they rely largely on a constant flow of capital and investments, which due to the pandemic came to a complete standstill.

With the ongoing crisis, to keep start-ups afloat has become quite a challenge. However, this challenge can be eliminated if entrepreneurs adapt to the current times, adopt new strategies, and are open to experiments and pivot their business plans. That’s because the pandemic has not only affected our present but also our future.’

Keeping in mind this article, state any two things which should be written by start-up companies in their manpower planning component of business plan so as to ensure the right number of people and the right kind of people at the right place even at this challenging time.

24. XYZ company decided to use mass media for promotion like---placing banner on billboards to be displayed beside highway, contracting media houses or theatre houses for running through the advertisement in between interval, advertisement through newspaper etc. 2

Which particular approach of promotion is referred here? Name the other two approaches also.

25. Street vendors sell various types of small goods. Often, there is a standard price posted for each item on sale. If the vendor really wants to sell an item and determines that a prospective buyer is not willing to pay the posted price, he or she may engage the individual in a negotiation of the sale price. Sometimes, referred to as dickering, the buyer and seller make offers back and forth, until they can settle on a price that both believe is fair. 2

(a) What is the type of pricing method involved?

(b) Write one disadvantage of this pricing method.

26. Differentiate between the term Merger and Consolidation. 2

27. Yash and his friends have participated in **Young Entrepreneur Challenge** a very reputed competition where every team has to come up with an idea that can be converted into a viable business opportunity and if they can convince the jury, they can even be offered financial support. Accordingly, Yash and his team members are also busy for last one month discussing various alternatives, but they do not want to be a part of wild goose chase and therefore decided to assess the ideas in terms the potentiality of the opportunity. 3

Identify the first three steps involved in this type of investigation.

28. Why is a company referred as an Artificial person? Also, state how is its scope determined? 3

Or.

While it is not compulsory to register your partnership firm as there are no penalties for non-registration, it is advisable. State the consequences for non-registration of the partnership firm.

29. A new mixed fruit juice introduced by Ronit Beverages Ltd. The mixed fruit juice has been fortified using various vitamins and minerals. The company designed a unique package for the product which made it very attractive. Their sales figures were an indication of their success. In order to capture huge market share, they decided to give exclusive rights to retailers to manufacture and sell the product to the public. Identify and explain this concept. And also state the advantages to Ronit Beverages Ltd. in doing so. 3
30. Ravi a class XII pass out being encouraged of Start-up initiatives of Govt. of India wants to pursue business as a career choice. But he is confused on how to spot a business idea. So, he decided to join a short-term course at Entrepreneurship Development Institute in New Delhi. There he was informed of the various sources which may lead to the emergence of basic ideas. Identify and explain any four such sources. 4
31. Kapish an unemployed graduate got training for automobile repairing and allied services under PMKVY (Pradhan Mantri Kaushal Vikas Yojana) for skill development. He is planning to start a digital workshop for which he needs 25 lacs. Though through MUDRA (Micro Units Development and Refinance Agency) he is able to get a loan of 10 lacs but still he is falling short of 15 lacs. He wants to pitch in his idea to potential investors through his business plan. Explain the different formats in which he can present his business plan for his start-up 4
32. Explain the various types of brands available from an entrepreneur's perspective. 4
- Or,
- What is Branding? State and explain its different components.
33. Describe the steps an entrepreneur needs to follow under a creative process once he recognises that an opportunity exists. 6
- Or,
- “In a rapidly changing environment, one rule of thumb applies: If you don't adapt, you don't endure”.
- In the light of above statement explain any four benefits of understanding the relevant environment of business by an entrepreneur.
34. Karan finished his graduation from Polytechnic college in the year 2018. He has specialised in repairing of electronic goods. After few months of his graduation, he met his uncle who has a small factory manufacturing electronic circuits used in Television. His uncle informed Karan that he could no longer run the unit so Karan decided to take over the factory. 6
- His immediate focus is on:
- planning production in advance of operations.
  - Establishing the exact route of each individual item, part of assembly.
  - Setting starting and finishing dates for each important assignment/work and
  - Regulating the orderly movement of goods through the entire manufacturing cycle i.e., right from procurement of all materials to the shipping of finished goods.
- Identify the component of business plan emphasised here and also explain its four components.
35. McDonald is synonymous with burgers. Let us read about certain facts about this famous joint. McDonald mainly comprises of food and beverage products (Burgers, Salads, and Shakes). Restaurants are the most prominent places where the company's products are distributed; they also sell through Kiosks for a limited selection of goods. McDonald offers discount coupons and freebies for certain meals as a way of attracting young customers (attractive figurines and action figures). The company strategically plays on the minds of the customers based on perceived affordability. The company uses prices that appear significantly more affordable such as Rs.49 only instead of rounding it off to the nearest whole number. 6
- Quoting lines from the above paragraph identify any three elements of marketing mix used by McDonalds.

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID-TERM EXAMINATION**  
**SESSION: 2022 – 2023**

**CLASS-XII**  
**SUBJECT-HISTORY**

**MAXIMUM MARKS-80**  
**TIME-3 HOURS**

**GENERAL INSTRUCTIONS:**

1. Answer all the questions. Some questions have internal choice. Marks are indicated against each question. This question paper comprises of **Six Sections**.

2. **Section A:** Question Number **1-16** are objective type questions carrying 1 mark each and should be answered in one word or one sentences each. (**Attempt any 15**)

3. **Section B:** Question numbers **17 to 19** are Case Based/Source Based having Multiple Choice questions. Each question has 4 sub-parts. Attempt any 3 sub-parts from each question.

4. **Section C:** Answer to questions carrying 3 marks (**Question 20 to 23**) should not exceed 100 words.

5. **Section D:** Answer to questions carrying 8 marks (**Questions 24-26**) should not exceed 350 words each.

6. **Section E:** Question number **27 to 29** are Source Based questions carrying 5 marks each.

7. **Section F:** Question number **30** is a Map question that includes the identification and location of significant trade items. Attach the map within your answer book.

1. Locate any one cause for that Nageshwar and Balakot were specialized centers for making shell objects. 1
2. Differentiate between the notions of kingship developed during the Kushan and the Gupta period. 1
3. Read the following information and mention the context in which the statement is connected: 1  
“The Satavahana rulers were identified through metronymic”.
4. “A stone statue was labeled and continues to be known as the ‘priest-king’ -Which of the following statement (s) is/ are correct to establish the observation? 1  
I. A large building found at Mohenjo-Daro was labeled as a palace by archaeologists but no spectacular finds were associated with it.  
II. This was because archaeologists were familiar with Mesopotamian history and its ‘priest-kings’ and have found parallels in the Indus region.  
III. Archaeologists are not sure about the political and religious heads of Harappan civilization.  
A. Only I is correct  
B. Both I and II is correct  
C. Both II and III is correct  
D. Only III is correct
5. Francois Bernier got closely associated with Mughal court, as a physician to the Mughal prince \_\_\_\_\_. 1
6. There are given two statements. One is Assertion and another is Reason. Read the statements and choose the correct option:- 1  
Assertion (A): The agricultural area of Vijayanagara was fortified with walls.  
Reason (R): Because often, the objective of medieval sieges was to starve the defenders into submission.  
A. Both A and R is correct but R is not the correct explanation of A  
B. A is correct but R is incorrect  
C. Both A and R is correct and R is the correct explanation of A  
D. R is correct but A is incorrect
7. Correct the following statement and rewrite it. 1  
Between 6<sup>th</sup> and 4<sup>th</sup> centuries BCE Koshala became the most powerful Mahajanapada.
8. Define the term ‘Stridhana’. 1

9. State any one unique feature of Al-Biruni's Kitab-ul-Hind. 1
10. Point out one difference between Be-Sharia and Ba-Sharia in Sufi traditions. 1
11. Choose the correct option:- 1

**Set-I**

- (a) Jatakas  
(b) Gahapati  
(c) Puhar  
(d) Shreni

**Set-II**

- (i) Anthology  
(ii) Pali Texts  
(iii) Sea Routes  
(iv) Craft production

- |    |     |      |       |      |  |
|----|-----|------|-------|------|--|
|    | (i) | (ii) | (iii) | (iv) |  |
| A. | (a) | (c)  | (b)   | (d)  |  |
| B. | (c) | (d)  | (b)   | (a)  |  |
| C. | (a) | (b)  | (c)   | (d)  |  |
| D. | (d) | (c)  | (a)   | (b)  |  |
12. Ibn Battutah was recruited as Qazi by \_\_\_\_\_ 1
- A. Allahuddin Khalji  
B. Muhammad bin Tughlaq  
C. Ghiyasuddin Balban  
D. Iltutmish
13. Most of the Naths, Yogis and Siddhas were from \_\_\_\_\_ groups. 1
- A. Artisanal  
B. Peasants  
C. Zamindars  
D. Talukdars
14. Mention any two features of the temple complexes of Vijayanagara Empire. 1
15. This is the image of \_\_\_\_\_ 1



- A. Durga  
B. Gajalaxmi  
C. Tara  
D. Saraswati 1
16. Fill in the blanks:-  
"Kutagarashala" was the place where the debates took place among the traveling \_\_\_\_\_.
- A. Merchants  
B. Mendicants  
C. Kings  
D. Peasants

**SECTION-B**

17. Read the following excerpt carefully and choose the correct option:- 1x3
- "The Most ancient system yet discovered"
- 'It is certainly the most ancient system as yet discovered. Every House was connected to the street drains. The main channels were made of bricks set in mortar and were covered with loose bricks that could be removed for cleaning. In some cases, limestone was used for the cover. House drains first emptied into a sump or cesspit into which the solid matter settled while waste water flowed out into the street drain.'
- A. This excerpt is related to the \_\_\_\_\_ planning of Harappan civilization.

- I. Town
- II. Great Bath
- III. Drainage
- IV. Citadel

B. 'The most ancient system yet discovered' is meant\_\_

- I. Before that no civilization was discovered
- II. The time-period of the civilization is not yet decided
- III. It is older civilization than Mesopotamia
- IV. The system was most ancient.

C. Choose the correct option:-

Assertion (A): Every house was connected to street drains.

Reason(R): Because only the rain water to drain through it.

- I. Both A and R is correct but R is not the correct explanation of A
- II. A is correct but R is incorrect
- III. Both A and R is correct and R is the correct explanation of A
- IV. R is correct but A is incorrect

D. The loose bricks were used to\_\_\_\_\_ the drain in regular interval.

- I. Clean
- II. Break
- III. Reconstruct
- IV. Change

18. Study the given picture carefully and answer the following questions:-

1x3



A. This picture is a panel of\_\_\_\_\_

- I. Sanchi
- II. Amravati
- III. Ajanta
- IV. Ellora

B. The sculpture depicts\_\_\_\_\_

- I. Dancing Girl
- II. Shalabhanjika
- III. Empty Seat
- IV. Gajalaxmi

C. Choose the correct statement/s:-

- a) This sculpture is not directly inspired by Buddhist ideas.
- b) Initially, scholars were a bit intrigued about this image.
- c) These include beautiful women swinging from the edge of the gateway, holding onto a tree.

- I. Only a) is correct
- II. Only b) is correct
- III. All a), b) and c) is correct
- IV. Only c) is correct

D. Assertion(A): It is likely that this was regarded as an auspicious symbol

Reason (R): Because many people who turned to Buddhism enriched the

sculpture with their own pre-Buddhist and even non-Buddhist beliefs, practices and ideas.

- I. A is correct but R is incorrect
- II. Both A and R is correct and R is the correct explanation of A
- III. A is incorrect but R is correct
- IV. Both A and R is correct but R is not the correct explanation of A

19. Study the excerpt carefully and answer the following questions:-

1x3

**“Rituals and the real world”**

Here is a vachana composed by Basavanna:-

‘When they see a serpent carved in stone they pour milk on it.

If a real serpent comes they say: “kill Kill.”

To the servant of the God who could eat if served they say:

“Go away! Go away!”

But to the image of the God which cannot eat they offer dishes of food’

A. This excerpt is associated with the \_\_\_\_\_ Traditions

- I. Alvars
- II. Nayanars
- III. Yogi
- IV. Virashaiva

B. Consider the statement/s given below:-

- a) The excerpt supports idol worship
- b) It says about reality of rituals and the facts
- c) It is related to political facts

- I. Only a) is correct here
- II. Both a) and c) is correct
- III. Only b) is correct

C. Assertion(A): This excerpt is related to humanism

Reason (R ): Because it highlights the benefits of Idol worship

- I. Both A and R is correct but R is not the correct explanation of A
- II. A is incorrect but R is correct
- III. R is incorrect but A is correct
- IV. Both A and R is correct and R is the correct explanation of A

D. People, if see real serpent, they want to kill it because \_\_\_\_\_

- I. They get afraid of it
- II. They love it
- III. They worship it as God
- IV. They want to pour milk on it

**SECTION-C**

- 20. ‘Historians have used variety of sources to reconstruct the history of the Mauryan Empire’- Highlight any three sources to support the statement. 3
- 21. ‘Ibn Battutah found cities of subcontinent full of exciting opportunities’- Highlight any three remarkable descriptions of the cities of the subcontinent according to Ibn Battutah. 3
- 22. ‘The Sufis accepted unsolicited grants and donations from the political elites’-To prove the given statement highlight the relation between the Sufis and the state. 3
- 23. Describe the position of the ‘Amara Nayakas’ in Vijayanagara. 3

**SECTION-D**

- 24. Describe the factors that led to the growth of Puranic Hinduism in India during 6th century BCE. 8

**OR**

Elucidate the structure of the Stupas with historical reference.

- 25. ‘Weaving a divine fabric: Kabir’- construct the belief and the contributions of Kabir in the light of historical and literary aspects. 8

**OR**

Enumerate the Chisti devotionalism with the reference of the Ziyarat and Qwwali.

26. Highlight the contributions of Krishnadeva Raya. Estimate the causes of the decline of the Vijayanagara Empire. 8

OR

Analyse the religious practices of Vijayanagara with the special reference of its temple architecture and the 'Mahanavami Dibba'.

**SECTION-E**

27. Read the given excerpt carefully and answer the following questions:- 1+2+  
2

**"The Sudarshana Lake in Gujarat"**

'The inscription mentions that the lake, with embankments and water channels, was built by a local governor during the rule of the Mauryas. However, a terrible storm broke the embankments and water gushed out of the lake. Rudradaman, who was then ruling in the area, claimed to have got the lake repaired using his own resources, without imposing any tax on his subjects. Another inscription on the same rock(c 5<sup>th</sup> century) mentions how one of the Gupta dynasty got the lake repaired once again.'

27.1) Name the dynasty of the then ruler Rudradaman.

27.2) Highlight the concern of the Mauryan rulers regarding this lake.

27.3) Why was the Sudarshana lake damaged? Which another dynasty had also repaired the lake again?

28. **Why The Kinfolk Quarreled** 1+2+  
2

(This is an excerpt from Adi Parvavan of the Sanskrit Mahabharata)

'The Kauravas were the... sons of Dhritarashtra, and the Pandavas... were their cousins. Since Dhritarashtra was blind, his younger brother Pandu ascended the throne of Hastinapura... However, after the premature death of Pandu; Dhritarashtra became the king, as the royal princes were still very young. As the princes grew up together, the citizens of Hastinapura began to express their preference for the Pandavas, for they were more capable and virtuous than the Kauravas. This made Duryodhana, the eldest of the Kauravas, jealous'

28.1) Who were the kinfolk here?

28.2) Why was Dhritarashtra, being the eldest son not nominated as king but later became the king of Hastinapura?

28.3) State the reason for that the Pandavas and Kauravas quarreled over the throne? Who were the legal heirs of the throne?

29. **Why were the Stupas built** 1+2+  
**(this is an excerpt from the Mahaparinibbana Sutta, part of Sutta Pitaka)** 2

'As the Buddha lay dying, Ananda asked him: "What are we to do Lord, with the remains of the 'Tathagata?" The Buddha replied: 'Hinder not yourselves Ananda by honouring the remains of Tathagata. Be zealous, be intent on your own good.' But when pressed further, the Buddha said: 'At the four crossroads they should erect a 'Thupa' (Pali for Stupa) to the Tathagata. And whosoever shall there place garlands or perfume...or make a salutation there, or become in its presence calm of heart, that shall long be to them for a profit and joy'

29.1) Who was Ananda?

29.2) Why had the Buddha advised Ananda not to hinder him selves?

29.3) State the reason to build Stupa.

**SECTION-F**

30. (30.1) On the given outline political map of India, locate and label the following with appropriate symbol:- 1+1+  
1=3
- a) Kalibangan, a mature Harappan site.

OR

Sanchi, a major Buddhist site.

b) The city of India where Ibn Battutah was recruited as Qazi

OR

The area of an Imperial Capital: Vijayanagara

c) Mahajanapada Magadha



(30.2) On the same outline map, two places have been marked as A and B. Identify them and write the correct names of the located places on the lines drawn near them.

1+1=  
2



**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022-2023**

**CLASS-XII**

**SUBJECT: MATHEMATICS**

**MAX. MARKS-80**

**TIME: 3HOURS**

**General instructions:**

1. This question paper contains **five** sections and **4 printed pages**.
2. **Section I** comprises of 16 very short type questions.
3. **Sections II** contain **2** case study based questions. Each case study comprises of 5 case based MCQs.  
An examinee is to attempt any **4 out of 5 MCQs**.
4. **Section –III** comprises of **10** questions of **2 marks** each.
5. **Section- IV** comprises **7** questions of **3 marks** each.
6. **Section -V** comprises of **3** questions of **5 marks** each.
7. Internal choice is provided in 5 questions of section **I**, **3** questions of **Section- III**, **2** questions of **Section-IV** and **3** questions of **Section-V**. You have to attempt **only one** of the alternatives in all such questions.

**Section-I**

1. Show that  $f: R \rightarrow R, f(x) = x - [x]$  is neither one-one nor onto. 1

**OR**

Prove that the function  $f: Z \rightarrow Z$  given by  $f(x) = x^2$  is neither injective nor surjective.

2. What is the principal value branch of  $\operatorname{cosec}^{-1} x$ ? 1

3. Show that all the diagonal elements of a skew symmetric matrix are zero? 1

**OR**

If A and B are symmetric matrices, such that AB and BA are both defined, then prove that  $AB - BA$  is skew symmetric.

4. What is the domain of  $f(x) = \sin^{-1} \sqrt{x-1}$ ? 1

5. If  $A = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$ , then find  $|3A|$ . 1

6. Evaluate:  $\int x \log x \, dx$  1

7. For the curve  $y = 5x - 2x^3$ , if  $x$  increases at the rate of 2 units/sec, then how fast is the slope changing when  $x=3$ . 1

8. Find the order and degree of the differential equation  $\left(\frac{d^6 y}{dx^6}\right)^{\frac{1}{4}} = \left(\frac{d^5 y}{dx^5}\right)^{\frac{1}{3}}$  1

**OR**

Find the order and degree of the differential equation

$$\frac{d^2 y}{dx^2} + \frac{dy}{dx} + \sin\left(\frac{dy}{dx}\right) + 1 = 0$$

9. For what value of  $x$  in the interval  $[0, \pi]$  does the function  $\sin 2x$  attains the maximum value? 1

10. Evaluate:  $\int_0^1 x(1-x)^n \, dx$  1

11. If  $A_{ij}$  is the co-factor of the element  $a_{ij}$  of the determinant 1

$$\begin{vmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{vmatrix}, \text{ then the value of } A_{32} a_{32}$$

12. Find the interval in which the function  $f(x) = x^2 e^{-x}$  is strictly increasing? 1

Or

Show that  $f(x) = \log \sin x$  is strictly increasing in  $(0, \frac{\pi}{2})$ .

13. Evaluate:  $\int_{-1}^1 x^{17} \cos^4 x \, dx$  1

14. Find the area of the parabola  $y^2 = 4ax$  bounded by the latus rectum. 1

OR

Find the area bounded by the curve  $y = \cos x$  between  $x = 0$  and  $x = 2\pi$

15. Evaluate:  $\int_0^1 \frac{1}{x+\sqrt{x}} dx$ . 1

16. Find the integrating factor of the following differential equation: 1  
 $xdy + (y - x^3)dx = 0$ .

### Section- II

**Both the Case study based questions are compulsory. Attempt any 4 subparts from each question. Each question carries 1 mark**

#### 17. Case study 1:

Three schools DPS, DAV and KVS decided to organize a fair for collecting money for helping the flood victims. They sold handmade fans, mats, and plates from recycled material at a cost of Rs 25, Rs 100, Rs 50, each respectively. The numbers of articles sold are given as

School/Articles	DPS	DAV	KVS
Handmade fans	40	25	35
Mats	50	40	50
Plates	20	30	40

Based on the given information, answer the following questions.

- (i) What is the total money (in Rupees) collected by the school DPS? 1  
 (a) 700 (b) 7000 (c) 6125 (d) 7875
- (ii) What is the total amount of money collected by the school DAV and KVS? 1  
 (a) 14,000 (b) 15,725 (c) 21,000 (d) 13,125
- (iii) What is the total amount of money (in Rupees) collected by the three schools DPS, DAV and KVS? 1  
 (a) 15,775 (b) 14,000 (c) 21,000 (d) 17,125
- (iv) If the number of handmade fans and plates are interchanged for all the schools, then What is the total amount of money (in Rupees) collected by the three schools DPS, DAV and KVS? 1  
 (a) 18,000 (b) 6,750 (c) 5,000 (d) 21,250
- (v) How many articles (in total) are sold by three schools? 1  
 (a) 230 (b) 130 (c) 430 (d) 330

18. **Case study 2:** An organization conducted Cycle race under 2 different categories - boys and girls. Totally there were 250 participants. Among all of them finally three from category 1 and two from category 2 were selected for the final race. Ranjit forms two sets B and G with these participants for his college project.

Let  $B = \{x_1, x_2, x_3\}$  and  $G = \{y_1, y_2\}$  where B represent the set of boys selected and G the set of girls who were selected for the final race.



- (i) Ranjit decides to explore these sets for various types of relations and functions. Ranjit wishes to form all the relations possible from B to G. How many such relation are possible? 1  
 (a)  $2^6$  (b)  $2^5$  (c) 0 (d)  $2^3$
- (ii) Let  $R: B \rightarrow B$  be defined by  $R = \{(x, y): x \text{ and } y \text{ are students of the same sex}\}$ , then this relation R is 1  
 (a) Equivalence (b) Reflexive only  
 (c) Reflexive and symmetric but not transitive (d) Reflexive and transitive but not symmetric.
- (iii) Ranjit wants to know among those relations, how many functions can be formed from B to G? 1  
 (a)  $2^2$  (b)  $2^{12}$  (c)  $3^2$  (d)  $2^3$
- (iv) Let  $R: B \rightarrow G$  be defined by  $R = \{(x_1, y_1), (x_2, y_2), (x_3, y_1)\}$ , then R is..... 1  
 (a) injective (b) surjective  
 (c) Neither injective nor surjective (d) injective and surjective
- (v) Ranjit wants to find the number of injective functions from B to G. How many numbers of injective functions are possible? 1  
 (a) 0 (b)  $2!$  (c)  $3!$  (d)  $0!$

### Section-III

19. If  $R_1$  and  $R_2$  are transitive on a set A, then verify that  $R_1 \cup R_2$  transitive or not. 2

**OR**

Let  $A = \{x \in \mathbb{Z}: 0 \leq x \leq 12\}$ . A relation  $R = \{(a, b): a, b \in A, |a - b| \text{ is divisible by } 4\}$ . Show that the relation R is reflexive. Write the equivalence class of [2]

20. Find a and b, if  $f(x) = \begin{cases} ax^2 + b, & \text{if } x < 1 \\ 2x + 1, & \text{if } x \geq 1 \end{cases}$  is differentiable at  $x=1$  2

**OR**

Discuss the continuity of the function  $f(x) = \begin{cases} x \cdot \sin \frac{1}{x}, & x \neq 0 \\ 0, & x = 0 \end{cases}$  at  $x = 0$

21. Evaluate:  $\int \frac{1}{\sin^4 x \cos^2 x} dx$  2

22. The radius of a cylinder is increasing at the rate of 3cm/sec and its height is decreasing at the rate of 2cm/sec. Find the rate of change of volume when radius is 3 cm and altitude 5cm. 2

23. Evaluate:  $\int_1^2 \left(\frac{x-1}{x^2}\right) e^x dx$  2

24. Find the least value of the function  $f(x) = ax + \frac{b}{x}$  ( $a > 0, b > 0, x > 0$ ) 2

25. Solve:  $x \cos\left(\frac{y}{x}\right) \frac{dy}{dx} = y \cos\left(\frac{y}{x}\right) + x$  2

26. Evaluate  $\int \frac{x+3}{\sqrt{5-4x-x^2}} dx$  2

**OR**

Evaluate:  $\int \frac{x^4+1}{x^2+1} dx$

27. Solve the following differential equation:  $\log \frac{dy}{dx} = ax + by$ . 2

28. Evaluate:  $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{\sin x + \cos x}{\sqrt{\sin 2x}} dx$  2

#### Section-IV

29. Evaluate: 3  
 $\tan^{-1}(\tan \frac{5\pi}{6}) + \cos^{-1}(\cos \frac{13\pi}{6}) + \operatorname{cosec}^{-1}(\sqrt{2}) + \cot^{-1}(-1)$
- OR**
- $\sin^{-1}(\cos(\sin^{-1}(\frac{\sqrt{3}}{2}))) + \cos^{-1}(-\frac{\sqrt{3}}{2}) - \tan^{-1}(\tan \frac{7\pi}{6}) + \sec^{-1}(-2)$
30. If  $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ , show that  $A^2 - 5A + 7I = 0$ . Use this result only to find  $A^4$ . 3
- OR,**
- If  $A$  is square matrix such that  $A^2 = A$ . then prove that  $(I+A)^3 - 7A = I$
31. If area of the triangle is 35 sq. units with vertices  $(2, -6)$ ,  $(5, 4)$  and  $(k, 4)$  then find the value of  $k$ , using determinant. 3
32. If  $x = \tan(\frac{1}{a} \ln y)$ , then show that  $(1+x^2) \frac{d^2y}{dx^2} + (2x - a) \frac{dy}{dx} = 0$  3
33. Find the area of the region bounded by the line  $y = 3x + 2$ , X-axis and the ordinates at  $x = -1$  and  $x = 1$ . 3
34. If the area of circle increases at a uniform rate, then prove that the perimeter varies inversely as the radius. 3
35. Find the general solution of the following differential equation: 3  
 $(1+y^2) + (x - e^{\tan^{-1}y}) \frac{dy}{dx} = 0$

#### Section-V

36. Use product  $\begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix} \begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$  to solve the system of equations 5  
 $x + 3z = 9, \quad -x + 2y - 2z = 4, \quad 2x - 3y + 4z = -3.$
- OR**
- Find  $A^{-1}$ , if  $A = \begin{bmatrix} 1 & 1 & 2 \\ 2 & -1 & 3 \\ 5 & -1 & -1 \end{bmatrix}$ , hence solve the following system of linear equations.  
 $x + 2y + 5z = 10, \quad x - y - z = -2, \quad 2x + 3y - z = -11.$
37. If the length of three sides of a trapezium other than the base are equal to 10 cm, then find the area of the trapezium when it is maximum. 5
- OR**
- Show that the altitude of a right circular cone of maximum curved surface area which can be inscribed in a sphere of radius 12 cm is 16 cm.
38. Evaluate:  $\int \sqrt{\tan x} \, dx$  5
- OR**
- Evaluate:  $\int_{-1}^{3/2} |x \sin \pi x| \, dx.$

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022-2023**

**Class: XII**  
**Subject: Painting**

**Maximum Marks: 30**  
**Time: 2 Hours**

**General Instructions:**

1. The question paper contains **Four Sections: A, B, C and D.**
2. All the **four** Sections are **compulsory**, which carry marks as indicated against each Section.

**SECTION -A**

**Instruction:** Write answers for all the eight parts of the question by selecting the correct one from the given options. **8x1=8**

1.
  - i) Artist Guman belongs to which sub-school: **1**
    - a) Mewar
    - b) Jodhpur
    - c) Jaipur
    - d) Bikaner
  - ii) Sahibdin was a court painter of Mewar, name the painting painted by him: **1**
    - a) Radha (Bani-Thani)
    - b) Chaugan Players
    - c) Kabir and Raidas
    - d) Maru-Ragini
  - iii) Mention the famous Kangrapainting painted by Nainsukh which is included in your course of study: **1**
    - a) Krishna with Gopis
    - b) Nand, Yashoda and Krishna with Kinsmen Going to Vrindavan
    - c) Krishna on Swing
    - d) Krishna Lifting Mount Govardhana
  - iv) The painting 'Krishna with Gopis' is based on which literary work: **1**
    - a) Geet-Govind
    - b) Bhagwat Puran
    - c) Ragamala
    - d) Baramasa
  - v) Who is considered as the father of Mughal Art? **1**
    - a) Jahangir
    - b) Babur
    - c) Akbar
    - d) Humayun
  - vi) 'Padshah Nama' is the Biography of which Mughal Emperor: **1**
    - a) Shahjahan
    - b) Abkar
    - c) Jahangir
    - d) Aurangzeb

- vii)** Mention the manuscript which illustrate the science of the stars: **1**
- 'Tarif-i-Husayn Shahi'
  - 'Nazum-ul-ulm'
  - 'Razm Nama'
  - 'Tutinama'
- viii)** Which school was patronized by Adil Shah I and Ibrahim Adil Shah II **1**
- Bidar
  - Bijapur
  - Ahmednagar
  - Golconda

### SECTION-B

**Instruction:** Write answers for each of the following questions **4x2=8**

- Mention the name of any four Sub-School along with the name of its artist and painting of the Rajasthani School of miniature painting included in your course of study. **2**
- Appreciate the painting Krishna with Gopis based on the following points: **2**
  - Name of the artist and Medium
  - Subject-matter
- Mention the name of the artist and Mughal Emperor under whose patronage each of the following miniature paintings was executed. **2**
  - Falcon on a Bird-Rest
  - Marriage Procession of Dara Shikoh
  - Krishna Lifting the Mount Govardhana
  - Kabir and Raidas
- Write a short on the painting 'Hazarat Nizamuddin Auliya and Amir Khusro'. **2**

### SECTION -C

**Instruction:** Write the answers for each of the following questions **2x3=6**

- Describe the features of Deccan School of Miniature Painting. **3**
- Describe the evolution of the Final (1947) Indian National Flag and also mention the symbolic significance of the forms and colour scheme. **3**

### SECTION -D

**Instruction:** Write answers for each of the following questions. **2x4=8**

- Mention any five salient features of the Rajasthani School of Miniature Painting with reference to painting 'Radha (Bani-Thani). **4**  
OR  
Write an essay on famous miniature painting "Bharat meets Rama at Chitrakut".
- Describe the origin and development of the Mughal School of Miniature Painting **4**  
OR  
How far has the painter been successful in depicting the subject matter and compositional arrangement of the miniature painting "Falcon on a Bird Rest"? Give appropriate reasons on the basis of aesthetical parameters.

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# D.A.V. INSTITUTIONS, WEST BENGAL ZONE

## MID TERM EXAMINATION

SESSION: 2022 – 2023

CLASS: XII

MAXIMUM MARKS: 70

SUBJECT: PHYSICAL EDUCATION

TIME: 3 Hours

### General Instructions:

1. There are four sections in the Question paper namely Section A, Section B Section C and Section D.
2. There are **30** questions in all and contains **03** printed pages.
3. **Section A** consists of 12 MCQs questions carries 1 mark each.
4. **Section B** consists of 4 questions carries 2 marks each and should have 20 - 30 words.
5. **Section C** consists of 10 questions each carries 3 mark and should have 80 - 100 words.
6. **Section D** consists of 4 questions each question carries 5 marks and should have 150 - 180 words.

### SECTION - A

1. Which is the formula for calculating the number of matches in a knock-out tournament? 1  
A.  $N+1$  B.  $N-1$   
C.  $\frac{N+1}{2}$  D.  $\frac{N-1}{2}$

OR

Pre-tournament committees include .....

- |                           |                        |
|---------------------------|------------------------|
| A. Organisation committee | B. Awards committee    |
| C. Medical committee      | D. Transport committee |
2. Knockout tournament is also known as ..... 1  
A. Elimination tournament B. Round robin tournament  
C. Challenge tournament D. Consolation tournament
  3. How many rounds will be played if the numbers of teams are 29 in the knock out fixture? 1  
A. 6 B. 5  
C. 8 D. 7

OR

It is an important ingredient of hormones, produces by thyroid glands.

- |           |             |
|-----------|-------------|
| A. Iron   | B. Chromium |
| C. Iodine | D. Sodium   |
4. Glucose energy is stored mostly as ..... 1  
A. Fat B. Glycogen  
C. Sucrose D. Fibre
  5. Fats are composed of the elements, carbon, oxygen, hydrogen in the ratio of- 1  
A. 76:12:12 B. 12:75:12  
C. 12:12:76 D. 12:12:75
  6. Overweight people need to focus on ..... 1  
A. Bone loss B. Fluid loss  
C. Muscle loss D. Fat loss



7. Which one from the following asanas does not control hypertension? 1
- A. Matsyasana B. Tadasana  
C. Bhujangasana D. Vajrasana

**OR**

Yoga has how many branches?

- A. 4 B. 6  
C. 9 D. 8
8. Sukhasana should be avoided in ..... 1
- A. Pregnancy B. Asthma  
C. Diabetes D. Knee/Spine problem
9. "Let me win. But if I cannot win, let me brave in the attempt". In which game this oath is taken? 1
- A. Special Olympic Bharat B. Paralympics  
C. Deaflympic D. Asian Games
10. The second oldest multi-nation sports tournament is- 1
- A. Summer Olympic B. Paralympics  
C. Special Olympic D. Deaflympic
11. If the menstrual period go more than 35 days, it is termed as 1
- A. Metrorrhagia B. Oligomenorrhoea  
C. Polymenorrhoea D. Menopause
12. Cobra pose is useful to correct ..... 1
- A. Kyphosis B. Bow leg  
C. Lordosis D. Knock knee

### SECTION – B

13. Explain bye and seeding. 2
14. How would you define a balanced diet? 2
15. What is the role of roughage in diet? 2
16. What do you understand by disability? 2

**OR**

What do you mean by disorder?

### SECTION – C

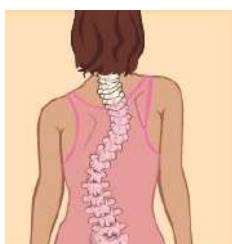
17. Draw a fixture of 9 teams on the basis of cyclic method. 3
18. Write the formula for giving bye. 3
19. Discuss, in brief, the female athlete triad. 3

**OR**

Draw a fixture of 8 teams on the basis of stair case method.

20. Briefly explain flat foot, its causes and preventive and remedial measures. 3
21. Discuss the procedure of Bhujangasana. 3

**OR**



Write down the corrective measures of the above picture of deformity.

22. How can yoga help in preventing diabetes? 3

23. "Few initiatives which are to be taken to make the CWSN to participate in Physical Education activities", (3 points each). 3
- By school
  - By society
24. Explain three advantages of physical activities for children with special needs. 3
25. Write down the functions of vitamin E. 3
26. Raman is a student of class XII and is suffering from Obesity. During a recent medical check-up at school he was advised to practice yogasana (as given in the syllabus) and participate in sports activities for curing it. 3
- Based on this case answer the following questions:
- The yoga instructor at the school has asked Raman to perform
    - Bhujangasana
    - Pawanmuktasana
    - Vajrasana
    - Chakrasana
  - The BMI index for an Obesity (Category-I) person is
    - <18.5
    - 18.5-24.9
    - 30-34.9
    - >40
  - Due to the Obesity; Raman is also suffering from knock knees for which he is advised to
    - Walk on inner edge of foot
    - Walk on outer edge of foot
    - Walk on heels
    - Walk on toes

**OR**

**Match the following :-**

List 1	List 2
Folic Acid	Vit B3
Riboflavin	Vit B9
Biotin	Vit B2
Niacin	Vit B7
Pyridoxine	Vit B12
Cobalamin	Vit B6

#### SECTION – D

27. What is knock-out tournament? Draw a fixture of 11 teams on knock out basis. 5
28. What is menstrual dysfunction? Elaborate the various types of problems related to it. 5

**OR**

What do you mean by spinal curvature? Mention the types of spinal curvature. Explain the reason and corrective measures of Lordosis.

29. Define Hypertension. Write down the procedure, benefits and contraindication of any two asanas which can control the Hypertension. 5

**OR**

What is the role of yoga in preventing lifestyle diseases?

30. Explain Macronutrients and their role in diet. 5

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022 – 2023**

**Class: XII**  
**Subject: Physics**

**Maximum Marks: 70**  
**Time: 3 hours.**

**General Instructions:**

- (i) All questions are compulsory. There are 32 questions in all.
- (ii) This question paper comprises five sections: **A, B, C, D** and **E**.
- (iii) **Section A**- Questions no. 1 to 14 are of 1 mark each.
- (iv) **Section B** – Questions no. 15 to 20 are of 2 marks each.
- (v) **Section C**- Questions no. 21 to 28 are of 3 marks each.
- (vi) **Section D** – Questions no. 29 and 30 are of 5 marks each.
- (vii) **Section E** – Questions no. 31 and 32 are Case Study -Based questions of 5 marks each.
- (viii) There is no overall choice in the question paper. However, internal choice has been provided in some of the questions. Attempt any one of the alternatives in such questions.
- (ix) Use of log tables is permitted, if necessary, but use of calculator is not permitted.
- (x) You may use the following values of physical constants wherever necessary.

$$c = 3 \times 10^8 \text{ m/s}$$

$$h = 6.63 \times 10^{-34} \text{ Js}$$

$$e = 1.6 \times 10^{-19} \text{ C}$$

$$\mu_0 = 4\pi \times 10^{-7} \text{ TmA}^{-1}$$

$$\epsilon_0 = 8.854 \times 10^{-12} \text{ C}^2\text{N}^{-1}\text{m}^{-2}$$

$$\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ Nm}^2\text{C}^{-2}$$

$$m_e = 9.1 \times 10^{-31} \text{ kg}$$

**SECTION A**

**Choose the correct option :**

1. A charged particle of mass  $m$  and charge  $q$  initially at rest is released in an electric field of magnitude  $E$ . Its kinetic energy after time  $t$  will be 1
  - (A)  $2E^2 t^2 / m q$
  - (B)  $E^2 q^2 t^2 / 2m$
  - (C)  $Eq^2 m / 2t^2$
  - (D)  $E q m / 2t$
2. By increasing the temperature, the specific resistance of a conductor and a semiconductor 1
  - (A) increases for both
  - (B) decreases for both
  - (C) increases and decreases respectively
  - (D) decreases and increases respectively

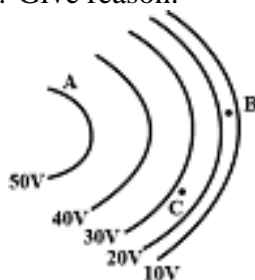
3. A wire of length  $L$  carrying a current  $I$  is bent into a circle. The magnitude of the magnetic field at the centre of the circle is 1
- (A)  $\frac{\pi\mu_0 I}{L}$   
 (B)  $\frac{\mu_0 I}{L}$   
 (C)  $\frac{2L}{2\pi\mu_0 I}$   
 (D)  $\frac{\mu_0 I}{2\pi L}$
4. The amplitude of the electric field of a plane electromagnetic wave in air is  $6 \times 10^{-4} \text{ Vm}^{-1}$ . The amplitude of the magnetic field will be 1
- (A)  $1.8 \times 10^5 \text{ T}$   
 (B)  $5 \times 10^3 \text{ T}$   
 (C)  $2 \times 10^{-4} \text{ T}$   
 (D)  $2 \times 10^{-12} \text{ T}$
5. A coil of resistance  $400 \Omega$  is placed in a magnetic field. If the magnetic flux  $\phi$  (in Wb) linked with the coil varies with time  $t$  (in sec) as  $\phi = 50 t^2 + 4$ , the current in the coil at  $t = 2 \text{ sec}$  is 1
- (A)  $1 \text{ A}$   
 (B)  $0.5 \text{ A}$   
 (C)  $0.1 \text{ A}$   
 (D)  $2 \text{ A}$
6. Two wires A and B made of same material and having their lengths in the ratio 6:1 are connected in series. The potential difference across the wires are 3V and 2V respectively. If  $r_A$  and  $r_B$  are the radii of A and B respectively, then  $\frac{r_B}{r_A}$  is 1
- A)  $\frac{1}{4}$   
 B)  $\frac{1}{2}$   
 C) 1  
 D) 2

For question numbers 7, 8, 9 and 10, two **statements** are given- one labelled **Assertion (A)** and the other labelled **Reason (R)**. Select the correct answer to these questions from the codes (A), (B), (C) and (D) as given below.

- (A) Both A and R are true and R is the correct explanation of A.  
 (B) Both A and R are true but R is NOT the correct explanation of A.  
 (C) A is true but R is false.  
 (D) A is false and R is also false.
7. **Assertion (A):** A charge, whether stationary or in motion produces a magnetic field around it. 1  
**Reason (R):** Moving charges produce only electric field in the surrounding space.
8. **Assertion:** A point charge is lying at the centre of a cube of each side. The electric flux emanating from each surface of the cube is  $1/6^{\text{th}}$  of total flux. 1  
**Reason:** According to Gauss theorem, total electric flux through a closed surface enclosing a charge is equal to  $1/\epsilon_0$  times the magnitude of the charged enclosed.
9. **Assertion:** If the length of the conductor is doubled, the drift velocity will become half of the original value (keeping potential difference unchanged). 1

**Reason:** At constant potential difference drift velocity is inversely proportional to the length of the conductor.

10. **Assertion (A):** An emf is induced in a closed loop where magnetic flux is varied due to time varying magnetic field. The induced electric field  $E$  is not a conservative field. 1  
**Reason (R):** The line integral  $\int \mathbf{E} \cdot d\mathbf{l}$  around a closed path is non zero.
11. State two properties of the material of the wire used for suspension of the coil in a moving coil galvanometer. 1
12. Following figure shows lines of constant potential in a region in which electric field exists. The values of potential are indicated. Out of the points A, B and C which will be greatest electric field strength? Give reason. 1



13. A heater joined in series with a 60 W bulb is connected to the mains. If 60 W bulb is replaced by a 100 W bulb, will the rate of the heat produced by the heater be more, less or remain the same? 1
14. A wire in the form of a tightly wound solenoid is connected to a DC source and carries a current. If the coil is stretched so that there are gaps between successive elements of the spiral coil, will the current increase or decrease? Explain. 1

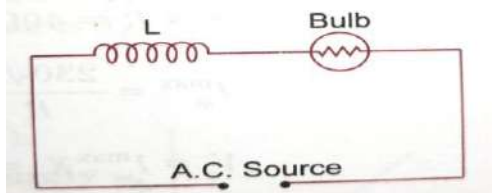
### SECTION – B

15. State two properties of electromagnetic waves. How can we show that electromagnetic waves carry energy and momentum? 2
16. Define the term ‘mobility’ of charge carriers in a current carrying conductor. Obtain the relation for mobility in terms of relaxation time. 2

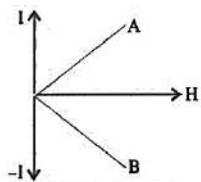
**OR**

Define the term ‘drift velocity’ of electrons in a current carrying conductor. Obtain the relationship between the current density and the drift velocity of electrons.

17. An inductor  $L$  of reactance  $X_L$  is connected in series with a bulb  $B$  to an a.c. source as shown in figure. Briefly explain how does the brightness of the bulb change when (i) number of turns of the inductor is reduced and (ii) a capacitor of reactance  $X_C = X_L$  is included in series in the same circuit. 2



18. The following figure shows the variation of intensity of magnetisation ( $I$ ) versus applied magnetising force ( $H$ ) for two materials A and B. 2



- (i) Identify the materials A and B
- (ii) Draw the variations of susceptibility with temperature for A and B.
19. A galvanometer can be converted into a voltmeter of certain range by connecting a 2

resistance of  $980\ \Omega$  in series with it. When the resistance is  $470\ \Omega$  connected in series, the range is halved. Find the resistance of the galvanometer.

**OR**

A galvanometer of resistance  $20\ \Omega$  gives a deflection of one division when a potential difference of  $4\text{mV}$  is applied across its terminals. Calculate the resistance of the shunt if the current of  $10\text{ A}$  is to be measured by it. The galvanometer has 25 divisions.

20. Two conducting wires X and Y of same diameter but different materials are joined in series across a battery. If the number density of electrons in X is twice that in Y, find the ratio of drift velocity of electrons in the two wires. 2

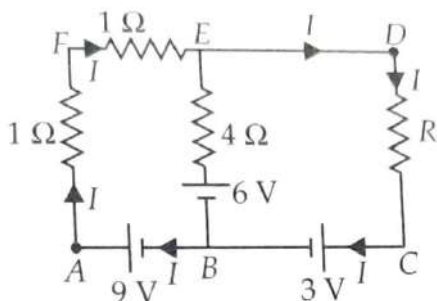
### SECTION-C

21. Give one justification of the statement: 'Lenz's law is a consequence of the law of conservation of energy'. 3  
 A circular coil of radius  $10\text{ cm}$ ,  $500$  turns and resistance  $2\ \Omega$  is placed with its plane perpendicular to the horizontal component of the earth's magnetic field. It is rotated about its vertical diameter through  $180^\circ$  in  $0.25\text{ s}$ . Estimate the magnitudes of the emf and current induced in the coil. Horizontal component of the earth's magnetic field at the place is  $3 \times 10^{-5}\text{ T}$ .
22. Derive an expression for the electric field intensity at a point on the equatorial line of a short electric dipole of dipole moment  $p$  and length  $2a$ . What is the direction of this field? 3

**OR**

Show that the potential energy of a dipole making an angle  $\theta$  with the direction of the electric field is given by  $U = -\mathbf{p} \cdot \mathbf{E}$ . Hence find out the amount of work done in rotating it from the position of unstable equilibrium to the stable equilibrium.

23. Using Kirchhoff's rules determine the value of unknown resistance  $R$  in the circuit so that no current flows through  $4\ \Omega$  resistance. Also find the potential difference between A and D. 3

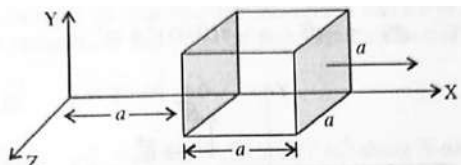


24. A voltage  $v = v_m \sin \omega t$  is applied to a series LCR circuit. Derive the expression for the average power dissipated over a cycle. Under what condition is no power dissipated even though the current flows through the circuit? 3

**OR**

- (i) Draw a graph showing the variation of amplitude of circuit current with changing frequency of applied voltage in series LCR circuit for two different values of resistance  $R_1$  and  $R_2$  ( $R_2 > R_1$ ).
- (ii) Define the term 'sharpness of resonance'. Under what condition does a circuit become more selective?

25. The electric field components in the given figure are  $E_x = \alpha x^{\frac{1}{2}}$ ,  $E_y = E_z = 0$  in which  $\alpha = 800 \text{ N/C m}^{1/2}$ . Calculate 3



- (i) Flux ( $\phi_E$ ) through the cube and
- (ii) The charge within the cube. Assume that  $a = 0.1 \text{ m}$ .

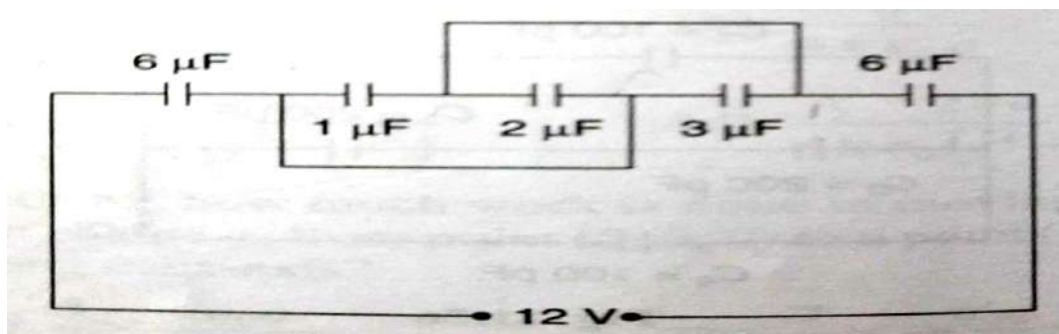
OR

- (i) An infinitely long positively charged wire has a linear charge density  $\lambda \text{ C m}^{-1}$ . An electron is revolving around the wire as its centre with a constant velocity in a circular plane perpendicular to the wire. Deduce the expression for its kinetic energy.
  - (ii) Plot a graph of the kinetic energy as a function of charge density  $\lambda$ .
26. a) Identify the electromagnetic waves whose wavelength lie in the range and write one use of each 3
- i)  $10^{-3} \text{ m} < \lambda < 0.1 \text{ m}$
  - ii)  $10^{-9} \text{ m} < \lambda < 10^{-7} \text{ m}$

b) Write the expression for the displacement current in terms of the rate of change of electric flux.

27. (a) Plot a graph showing the variation of current  $I$  versus resistance  $R$ , connected to a cell of emf  $E$  and internal resistance  $r$ . 3
- (b) A battery of emf  $E$  and internal resistance  $r$  is connected to a resistor of resistance  $r_1$  and  $Q$  joules of heat is produced in a certain time  $t$ . When the same battery is connected to another resistor of resistance  $r_2$ , the same quantity of heat is produced in the same time  $t$ . What is the value of  $r$ ?

28. 3



Find-

- (a) equivalent capacitance
- (b) potential difference across each  $6 \mu\text{F}$  capacitor
- (c) charge on the  $2 \mu\text{F}$  capacitor

### SECTION D

29. (a) A circular loop of radius  $R$  carries a current  $I$ . Obtain an expression for the magnetic field at a point on its axis at a distance  $x$  from its centre. 3+2
- (b) In the Bohr model of hydrogen atom, an electron revolves around a nucleus in a circular orbit of radius  $5.11 \times 10^{-11} \text{ m}$  at a frequency of  $6.8 \times 10^{15} \text{ Hz}$ . What is the magnetic field set up at the centre of the orbit?

**OR**

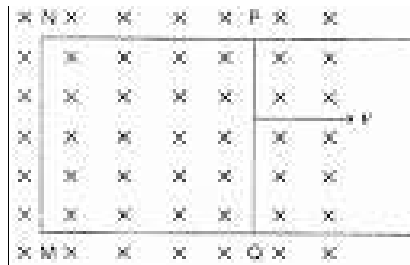
- (a) Obtain the expression for the torque acting on a current carrying rectangular coil placed in a uniform magnetic field.
- (b) A rectangular coil of sides 8 cm and 6 cm having 2000 turns and carrying a current of 200 mA is placed in a uniform magnetic field of 0.2 T directed along the +ve x-axis. What is the maximum torque the coil can experience? In which orientation of the coil is the torque zero?

30. (a) Two concentric circular coils, one of small radius  $r_1$  and the other of large radius  $r_2$ , such that  $r_1 \ll r_2$ , are placed coaxially with centres coinciding. Obtain the mutual inductance of the arrangement. 5
- (b) Two identical loops, one of copper and the other of aluminum are rotated with the same angular speed in the same magnetic field. Compare (i) the induced emf and (ii) the current produced in the two coils. Justify your answer.

**OR**

- (a) With the help of a diagram, explain the principle of a device which changes a low voltage into a high voltage but does not violate the law of conservation of energy. Give any one reason why the device may not be 100% efficient.

(b)



A rectangular loop PQMN with movable arm PQ of length 10 cm and resistance  $2 \Omega$  is placed in a uniform magnetic field of 0.1 T acting perpendicular to the plane of the loop as shown in figure. Calculate the amount of current induced when arm PQ is moved with a velocity 20 m/s.

### SECTION E

31. The term electric flux implies some kind of flow. Electric flux is a property of Electric field. It is equal to the product of the given area and the normal component of the electric field through it. 5

Gauss's theorem gives a relationship between the total flux passing through any closed surface  $S$  and the charge  $q$  enclosed within the surface. It states that the total flux through a closed surface is  $1/\epsilon_0$  times the net charge enclosed by the surface. Gauss's theorem is quite useful in calculating the electric field in problems where it is possible to choose a closed surface such that the electric field has a normal component which is either zero or has a single fixed value at every point on the surface. The closed surface we choose to solve a given problem is called Gaussian surface.

(i) What is the SI unit of electric flux?

- (A)  $\text{Nm}^2/\text{C}$  (B)  $\text{N m}^2$   
(C)  $\text{N}/\text{m}^2$  (D)  $\text{N}^2 \text{C}^2/\text{m}^2$

(ii)  $\oint \mathbf{E} \cdot d\mathbf{S} = 0$ , inside a surface, that means there is

- (A) no net charge present inside the surface



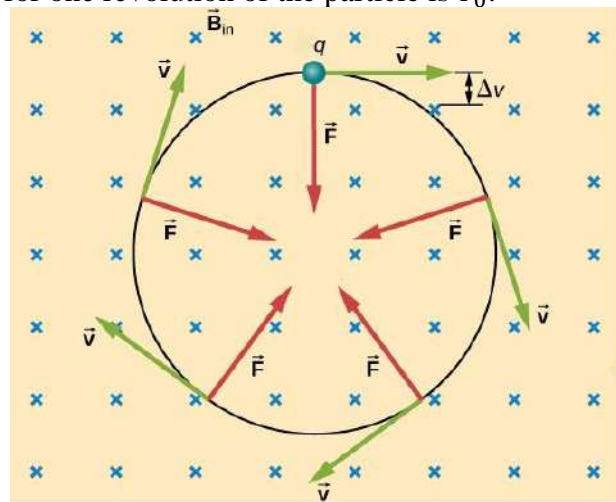
- (B) uniform electric field inside the surface  
 (C) discontinuous field lines inside the surface  
 (D) some charge present inside the surface
- (iii) For a given surface the Gauss's law is stated as  $\oint \mathbf{E} \cdot d\mathbf{S} = 0$ . From this we can conclude that  
 (A)  $E$  is necessarily zero on the surface.  
 (B)  $E$  is perpendicular to the surface at every point  
 (C) the total flux through the surface is zero.  
 (D) the flux is going out of the surface
- (iv) A plane area of  $100 \text{ cm}^2$  is placed in a uniform electric field of  $100 \text{ N/C}$  such that the angle between area vector and an electric field is  $60^\circ$ . The electric flux over the surface is  
 (A)  $0.5 \text{ N m}^2/\text{C}$  (B)  $5.0 \text{ N m}^2/\text{C}$   
 (C)  $0.3 \text{ N m}^2/\text{C}$  (D)  $3.5 \text{ N m}^2/\text{C}$
- (v) Charge  $q$  is kept in a sphere of radius  $5 \text{ cm}$  and then it is kept in a cube of side  $5 \text{ cm}$ .

The outgoing flux

- (A) will be more in case of sphere  
 (B) will be more in case of cube  
 (C) will be same in both cases  
 (D) cannot be determined

32. A charged particle with speed  $v_0 \ll c$  moves in a circle of radius  $r_0$  in a uniform magnetic field. This particle is able to traverse a circular path as magnetic field is perpendicular to the velocity of the particle. A force acts on the particle perpendicular to both  $\vec{v}_0$  and  $\vec{B}$ . This force continuously deflects the particle sideways without changing its speed and the particle will move along a circle perpendicular to the field. The time required for one revolution of the particle is  $T_0$ .

5



- (i) If speed of the particle is now doubled to  $2v_0$ , the radius of the circle will change to  
 (a)  $4r_0$   
 (b)  $2r_0$   
 (c)  $r_0$   
 (d)  $\frac{r_0}{2}$

- (ii) If speed of the particle is now doubled to  $2v_0$ , then time required for one revolution of the particle will change to
- $4T_0$
  - $2T_0$
  - $T_0$
  - $T_0/2$
- (iii) A charged particle is projected in a magnetic field  $\vec{B} = (2\hat{i} + 4\hat{j}) \times 10^2 T$ . The acceleration of the particle is found to be  $\vec{a} = (x\hat{i} + 2\hat{j}) ms^{-2}$ . The value of x is
- 4
  - 4
  - 2
  - 2
- (iv) If the given particle has a velocity not perpendicular to B, then trajectory of the particle is
- Straight line
  - Circular
  - Helical
  - Zig-zag
- (v) If an electron of charge (e) moves parallel to uniform magnetic field with constant velocity v, the force acting on the electron is
- $Bev$
  - $\frac{Be}{v}$
  - $\frac{B}{ev}$
  - Zero.

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022-2023**

**Class: XII**  
**Subject: Political Science**

**Maximum Marks: 80**  
**Time: 3 Hrs.**

**General Instructions:**

- i) The question paper has SECTIONS A, B, C, D, E and F. There are 32 questions and some questions have internal choices.
- ii) All questions are compulsory.
- iii) Write the correct question number as given in the question paper while answering in your answer book.
- iv) a) Answer to questions of 1 mark should not exceed 20 words each.  
b) Answer to questions of 2 marks should not exceed 40 words each.  
c) Answer to questions of 4 marks should not exceed 100 words each.  
d) Answer to questions of 5 marks should not exceed 120 words each.  
e) Answer to questions of 6 marks should not exceed 150 words each.

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**SECTION A**

- |    |   |   |
|----|---|---|
| 1. | Russia took over the U.S.S.R. seat in the U.N. in:<br>A. December 1991<br>B. November 1989<br>C. December 1990<br>D. October 1992.  | 1 |
| 2. | Which of the following countries is not a South Asian country?<br>A. Bangladesh<br>B. India<br>C. Bhutan<br>D. Indonesia  | 1 |
| 3. | Which one of the following statements about the ethnic conflict in Sri Lanka is false?<br>A. Politics in Sri Lanka openly favoured the Sinhalas.<br>B. Interests of Tamils were neglected.<br>C. Liberation Tigers of Tamil Elam were supported by the SAARC countries.<br>D. There was no political equality in Sri Lanka. | 1 |
| 4. | Two founder members of ASEAN are _____ and _____.<br>A. Australia and China<br>B. Indonesia and Malaysia<br>C. Mauritius and Myanmar<br>D. Cambodia and Myanmar   | 1 |

**OR**

- |   |  |   |
|---|--|---|
| Who was the first woman President of the U.N. General Assembly? |  |   |
|   | A. Sarojini Naidu<br>B. Aruna Asaf Ali<br>C. Vijay Lakshmi Pandit<br>D. Raj Kumari Amrit Kaur  |   |
| 5.  | Which of the following is a source of insecurity?<br>A. Human Rights<br>B. Balance of Power<br>C. Global Poverty<br>D. Alliance Building | 1 |

6. \_\_\_\_\_ gave up the office because of the popular dissatisfaction against him. 1  
 A. Zubaida Jalal Khan  
 B. General Ayub Khan  
 C. Imran Khan  
 D. Benazir Bhutto
7. State which of the following statements about emergency is incorrect. 1  
 A. It was declared in 1975 by Indira Gandhi.  
 B. It was proclaimed due to the deteriorating economic conditions.  
 C. It led to the suspension of all fundamental rights.  
 D. Many opposition leaders were arrested during the emergency.
8. Which one of the following was not a part of the early phase of India's development policy? 1  
 A. Planning  
 B. Self sufficiency  
 C. Privatization  
 D. Social and economic justice
9. Why the results of general elections of 1967 were called 'political earthquake'? 1  
 1. Because Congress lost all the seats  
 2. The elections were not at all successful  
 3. The popularity of Congress had reduced by a large scale  
 Options are:  
 A. 1 and 2  
 B. 2 and 3  
 C. Only 3  
 D. Only 2
10. Complete the sentence: 1  
 In December 1952, a separate state was created with the name of \_\_\_\_\_.
11. Select the correct option for the leader and the country that helped to reach the Tashkent agreement between India and Pakistan. 1  
 A. India, Nehru  
 B. USSR, Kosygin  
 C. Egypt, Nasser  
 D. Indonesia, Sukarno
12. The \_\_\_\_\_ had played a role in the installation of Indira Gandhi as the Prime Minister 1  
 by ensuring her election as the leader of the Parliamentary Party.  
 A. Grand Alliance  
 B. Syndicate  
 C. Congress (R)  
 D. Seven Party Alliance
13. True or False: 1  
 The Soviet system was based on the principles of equality and the planned economy controlled by the state.
14. \_\_\_\_\_ was the first among the three challenges to India while building a nation-state. 1  
 1. Building a united nation  
 2. Poverty  
 3. Communal tensions  
 Options are:  
 A. Only 1  
 B. 2 and 3  
 C. Only 3  
 D. 1, 2 and 3

15. The sentences given are (A) ASSERTION and (R) REASON. Select the option which establishes the appropriate relation between them. 1
- Assertion: The UN is an imperfect body, but without it the world would be worse off.  
Reason: Given the growing connections and links between societies and issues-what we often call 'interdependence'-it is hard to imagine how more than seven billion people would live together without an organization such as the UN.
- A. Both (A) and (R) are true, and (R) is the correct explanation of (A).  
B. Both (A) and (R) are true, but (R) is not the correct explanation of (A).  
C. (A) is true, but (R) is false.  
D. (A) is false, but (R) is true.
16. Assertion (A): Fundamental Rights of the citizens were suspended till the continuance of National Emergency. 1
- Reason (R): Due to different viewpoints of people about the imposition of emergency, it is the most debatable and controversial topic of Indian Politics.
- A. Both A and R are true and R is the correct explanation of A.  
B. Both A and R are true but R is not the correct explanation of A.  
C. A is true but R is false.  
D. A is false but R is true.

### SECTION B

17. Read the following passage carefully and answer the questions: 1x4

ASEAN was and still remains principally an economic association. While the ASEAN region as a whole is a much smaller economy compared to the US the EU, and Japan, its economy is growing much faster than all these. This accounts for the growth in its influence both in the region and beyond. The objectives of the ASEAN Economic Community are to create a common market and production base within ASEAN States and to aid social and economic development in the region. The Economic Community would also like to improve the existing ASEAN Dispute Settlement Mechanism to resolve economic disputes. ASEAN has focused on creating a Free Trade Area (FTA) for investment, labour, and services. The US and China have already moved fast to negotiate FTAs with ASEAN.

- A. What is the objective of ASEAN Economic Community?  
B. Why did ASEAN establish Free Trade Areas (FTAs)?  
C. How ASEAN Economic Community would resolve economic disputes?  
D. Which countries have already moved fast to negotiate FTAs with ASEAN and why?
18. India did not follow any of the two known paths to development. Elements from both these models were taken and mixed together in India. That is why the Indian economy was described as a 'mixed economy'. 1x4
- i. Name the two models/paths to development.  
ii. Why was either of the two models not fully accepted by India? Give at least one major reason.  
iii. Highlight any two features of India's mixed economy.  
iv. Why is Planning Commission called an extra-constitutional body?

### SECTION C

19. What were the outcomes of the Arab Spring? 2
20. India's neighbours often think that the Indian government tries to dominate and interfere in the domestic affairs of the smaller countries of the region. Is this a correct impression? Explain your views with two points. 2
21. Roots of Democracy in India are deep. Explain with the help of examples. 2

22. What was 'Shah Commission Inquiry'? How did the government react to it? 2

OR

What was the purpose of Jayaprakash Narayan calling for Total Revolution?

### SECTION D

23. How can we say that India is emerging as super-national organization? Examine. 4

OR

Write a short note on BRICS highlighting its formation and objectives.

24. Examine the role of UN as a great balance against US dominance. 4

25. Differentiate between the traditional and the non-traditional notions of security. (Any 4 points) 4

26. Does India's foreign policy reflect her desire to be an important regional power? Argue your case with the Bangladesh War of 1971 as an example. 4

OR

Explain the relationship between India and Sri Lanka.

27. How was 'one party dominance' in India different from the 'one party system' in Mexico? 4  
In your opinion, which of the two political systems is better and why?

### SECTION E

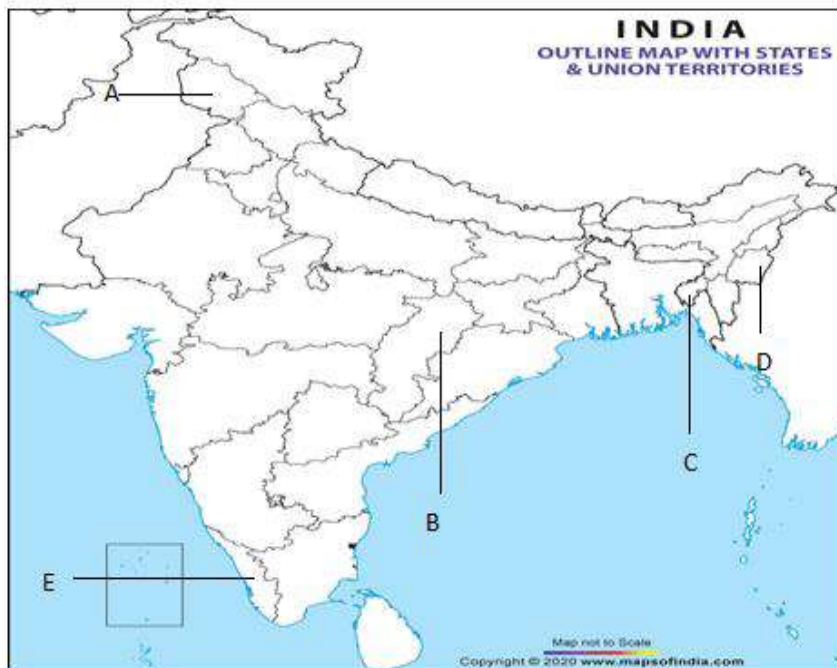
28. Study the picture given below and answer the questions that follow: 1+2+2



- A. What does the cartoon represent?  
B. What message does this cartoon convey?  
C. Which country is shown here? Is the representation of this cartoon different from our country?

P.T.O

29. In the given political outline map of India, five States have been marked as A, B, C, D and E. With the help of the information given below, identify them and write the options with correct names of states along with the serial number in your answer sheet. 1x5



- i. The State which was carved out of Madhya Pradesh.
- ii. The State which opposed its merger with India after independence.
- ii. The first State of free India having a Communist government.
- iv. The State adjoining Pakistan territory up to 1971.
- v. The State which got affected by the deletion of Article 370.

Sr. Number of the information used	Alphabet Concerned	Name of State
i		
ii		
iii		
iv		
v		

### SECTION F

30. Describe the role of Gorbachev to reform the Soviet System and the effects of these reforms on the USSR. 6

OR

Describe the factors that made most of the former Soviet Republics prone to conflicts and threats.

31. What forced the Union Government of India to appoint the State's Reorganization Commission in 1953? Mention its two main recommendations. 6

OR

The three challenges faced by India, at the time of Independence are yet to be resolved completely. Do you agree with the statement? Give three reasons in support of your answer.

32. Explain the three democratic upsurges that emerged in the post-independence history of India. 6

OR

'The 1977 for the first time saw the opposition coming to power at the Centre'. Explain.

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022 - 23**

**Class: XII**  
**Subject: Psychology**

**Full Marks: 70**  
**Time: 3 Hours**

**General Instructions:**

- ❖ All questions are compulsory. Answers should be brief and to the point.
- ❖ **SECTION – A** has **15** Learning Checks carrying one mark each. Answer them as directed.
- ❖ Questions **16 to 20** in **SECTION – B** are case study-based questions carrying one mark each.
- ❖ Questions **21 to 25** in **SECTION – C** are Very Short Answer type questions carrying 2 marks each. Answer to each question should not exceed **40 words**.
- ❖ Questions **26 to 29** in **SECTION–D** are Short Answer Type I questions carrying 3 marks each. Answer to each question should not exceed **80 words**.
- ❖ Questions **30 to 33** in **SECTION–E** are Short Answer Type II questions carrying 4 marks each. Answer to each question should not exceed **120 words**.
- ❖ Questions **34 and 35** in **SECTION–F** are Long Answer Type questions carrying 6 marks each. Answer to each question should not exceed **200 words**.

**SECTION – A**

1. Extreme pain without any identifiable physiological problem is an example of - 1  
a) Anxiety Disorder      b) Dissociative Disorder  
c) Mood Disorder      d) Somatic Symptom Disorder
2. Who defined intelligence as the ability to judge well, understand well and reason well? 1  
a) Binet      b) Wechsler      c) Sternberg      d) Gardner
3. Which factor is TRUE of people who are low in self-efficacy? 1  
i. They feel less fearful and do not shy away from taking risks.  
ii. They avoid challenges and allow people to select and shape their environment.  
iii. They don't believe that luck and fate control their life's outcome.  
iv. It can be enhanced by presenting weak role models.

**Choose the correct option**

- a) i, iii  
b) ii, i  
c) iii, iv  
d) ii, iv
4. Personality characterised by proneness to depression is classified as \_\_\_\_\_ 1  
a) Type A      b) Type B      c) Type C      d) Type D
5. A false belief that is firmly held on inadequate ground is known as – 1  
a) obsession      b) hallucination      c) delusion      d) illusion
6. In \_\_\_\_\_ therapy, the aim is establishing relationship between undesirable behaviour with painful consequences. 1  
a) aversion      b) cognitive      c) existential      d) relaxation
7. The state of physical, emotional, and psychological exhaustion is known as – 1  
a) resistance      b) stress      c) burnout      d) coping



8. A dream like state separating self from reality is known as \_\_\_\_\_. 1  
 a) dissociative amnesia      b) dissociative identity  
 c) dissociative fugue      d) depersonalization/derealisation
9. If a person has the skill to understand motives, feelings and behaviour of other people, s/he is 1  
 said to have \_\_\_\_\_ intelligence.  
 a) interpersonal      b) intrapersonal      c) linguistic      d) natural
10. \_\_\_\_\_ is used to describe the unpleasant emotional state that results from blocked goal 1  
 or desire.  
 a) conflict      b) depression      c) frustration      d) all of these
11. Giftedness from the teachers' point of view depends on a combination of \_\_\_\_\_. 1  
 a) high ability, high creativity, high commitment  
 b) high ability, high creativity, high cooperation  
 c) high ability, high commitment, high talent  
 d) high ability, high creativity, high dependence

**Two statements are given in the question below as Assertion (A) and Reasoning (R).  
 Read the statements and choose the appropriate option.**

12. **Assertion (A):** There may be many people who are academically talented but are 1  
 unsuccessful in their own lives.  
**Reason (R):** The source of their difficulty is lack of emotional intelligence.  
**Options:**  
 a) Both A and R are true, and R is the correct explanation of A  
 b) Both A and R are true, but R is not the correct explanation of A  
 c) A is true, R is false  
 d) A is false, R is true
13. **Assertion (A):** 'Unconditional positive regards' is an important factor for personality 1  
 development.  
**Reason (R):** 'Unconditional positive regards' ensures the enhancement of  
 conflict.  
**Options:**  
 a) Both A and R are true, and R is the correct explanation of A  
 b) Both A and R are true, but R is not the correct explanation of A  
 c) A is true, R is false  
 d) A is false, R is true
14. **Assertion (A):** Cyclothymic disorder is a kind of mood disorder. 1  
**Reason (R):** Depression covers a variety of negative mood and behavioural changes.  
**Options:**  
 a) Both A and R are true, and R is the correct explanation of A  
 b) Both A and R are true, but R is not the correct explanation of A  
 c) A is true, R is false  
 d) A is false, R is true
15. **Assertion (A):** The seventeenth and eighteenth centuries were known as the Age of Reason 1  
 and Enlightenment.  
**Reason (R):** The scientific method replaced faith and dogma as ways of understanding  
 abnormal behaviour.

**Options:**

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is true, R is false
- d) A is false, R is true

**SECTION – B****Read the case and answer the following questions:**

Mr. Dey is a forty-seven years old man who consulted a psychiatrist to discuss what he calls his 'silly habits'. He reports that for several years he had to check and recheck the electrical appliances, as well as doors and windows, before leaving home each morning and again before going to bed. At times the checking has made him late for work and has disturbed his sleep such that he had to get up and check everything several times yet again.

When questioned about the reasons for his behaviour, Mr. Dey reported that he could not stop thinking that electrical appliances may short circuit and cause a disastrous fire or that his house may be broken into and he will lose all valuables. He recognizes these concerns and resulting checking as excessive and unreasonable, but yet feels compelled to do something to alleviate the anxiety associated with the thoughts.

- 16. Identify Mr. Dey's disorder. 1
  - a) Generalised anxiety disorder
  - b) Major depressive disorders
  - c) Obsessive -compulsive disorder
  - d) Somatic symptom disorder
- 17. Which of the following statements represents his repetitive thoughts? 1
  - a) For a number of years, he had to check and recheck electrical appliances.
  - b) He had to get up to check everything a number of times.
  - c) The checking has made him late for work.
  - d) He could not stop thinking that electrical appliances may short circuit and cause a disastrous fire.
- 18. Which disorder also comes under the category of obsessive-compulsive and related disorders? 1
  - a) Excoriation disorder
  - b) Acute stress disorder
  - c) Adjustment disorder
  - d) Cyclothymic disorder
- 19. Suggest a suitable behavioural technique which will help him to stop his checking - rechecking behaviour. 1
  - a) Token economy
  - b) Aversion therapy
  - c) Reinforcement Scheduling
  - d) Systematic desensitization
- 20. In this case study, 'silly habits' refers to – 1
  - a) anxiety
  - b) phobia
  - c) obsession
  - d) compulsion

**SECTION – C**

- 21. Explain cardinal trait with suitable examples. 2
- 22. What do you mean by 'unconditional positive regard'? 2

OR

Explain empathy and its use in therapy.

- 23. Differentiate between hostile aggression and proactive aggression. 2

OR

Briefly discuss any two types of conflicts with suitable examples.

- 24. What are life skills? List any two life skills. 1+1
- 25. Sucheta is studying in class VI. She got a less marks in her mathematics paper. According to her question paper was too difficult to solve. Name the defense mechanism she used to reduce her anxiety. 2

### SECTION – D

26. A client experiences irrational thought that are self-defeating in nature. Suggest a suitable therapy that will help her/him to reduce her/his distress. Also provide the rationale for selecting this therapy. 3

OR

Suggest and explain a suitable therapy for the patient suffering from depression.

27. Draw the differences among intelligence, aptitude and interest. 3
28. Differentiate between personal self and social self. 3
29. Fatima is experiencing generalized anxiety disorder. Enumerate any two causes with reference to diathesis stress model which may have led to the disorder. 3

### SECTION – E

30. Raj would often be seen talking to himself. On questioning, he would state that there were people around him whom he could hear when there was no one else around. Also, he believes that he is having some supernatural power to hear the voice of other people who are not present. Identify the psychological disorder and describe these symptoms in detail. 4

OR

Aman is an eight-year-old who has profound difficulty in relating to other people. Often, he is found to be unresponsive to other people's feelings and exhibits stereotypical patterns of behaviour. Identify this disorder and describe its features.

31. Robin is terribly afraid of snakes. His phobia has made him so dysfunctional that he had to take a long leave from his job at the local zoo. This happened when he heard that a new snake enclosure would soon open. Identify the therapeutic technique that would help Robin deal with this problem and explain its process. 4
32. Describe briefly four factors which facilitate development of positive health. 4

OR

Explain the concept of stress appraisal. Enumerate the different ways of coping with stress.

33. What is emotional intelligence? Which of the two, IQ or EQ, do you think would be more related to success in life and why? 4

### SECTION – F

34. As a student of Class XII, you wish to score very high marks in your Board examination. You start planning for the same by attending classes regularly, taking notes, setting study targets, etc. Identify and explain the theory of intelligence which includes planning as an essential feature. 6

OR

Briefly discuss a theory of intelligence where experience is considered as one of the important components.

35. How do projective techniques help us in assessing personality? Explain any two projective tests in detail. 2+4

OR

What is ego defence mechanism? Illustrate the stages of psycho-sexual development with example.

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**D.A.V. INSTITUTIONS, WEST BENGAL ZONE**  
**MID TERM EXAMINATION**  
**SESSION: 2022 – 2023**

**Class: XII**

**Maximum Marks: 80**

**Subject: SOCIOLOGY**

**Time: 3 Hours**

**General Instructions:**

1. The paper has 35 questions.
2. All questions are compulsory.
3. Section A- Question number 1 to 16 are one-mark questions.
4. Section B- Question number 17 to 25 are two-marks questions. These are very short answer type questions. The answer to these questions should not exceed 30 words.
5. Section C- Question number 26-32 are four-marks questions. These are short answer type questions. The answer to these questions should not exceed 80 words. Question number 26-28 are source/passage based questions. Read the source/ passage carefully and answer the question that follow .
6. Section D- Question number 33-35 are six-marks question. These are long answer type questions. The answer to these questions should not exceed 200 words.

**SECTION A**

- |   |  |   |
|---|--|---|
| 1 | The changing age structure offers a demographic dividend for India. Identify from the following choices, the relevant age range that allows for demographic dividend.<br>(A) 0-14<br>(B) 15-64<br>(C) 64-75<br>(D) 75 and above  | 1 |
| 2 | The problem of selective abortions occurs due to<br>(A) poverty<br>(B) ignorance<br>(C) lack of resources.<br>(D) economically prosperous families decide to have fewer children   | 1 |
| 3 | Who among the following argued that tribes were merely backward Hindus and their problems had to be addressed within the same framework as that of other backward classes?<br>(A) Integrationist<br>(B) Isolationist<br>(C) Colonial authorities<br>(D) The Tribal organizations   | 1 |
| 4 | Which of the following state of India had the tribal share of population halved within a single decade, reducing them to a minority?<br>(A) Jharkhand<br>(B) Maharashtra<br>(C) Bihar<br>(D) Tripura<br>Or<br>Which of the following statement can be said incorrect about ' Tribes' ?<br>(A) They did not practice a religion with a written text.<br>(B) They did not have state or political forms of the normal kind.<br>(C) The term 'Tribe' was introduced in colonial era.<br>(D) They have sharp class and caste division. | 1 |
| 5 | A radical group that emerged in Western India to assert their caste identity as part of the struggle for rights and dignity, was<br>(A) The Dalit Panthers<br>(B) Theosophical society<br>(C) Harijan Bahul Sabha<br>(D) The Dalit Samiti  | 1 |

- 6 The women in India were given right to hold public offices through which one of the following declaration? 1  
 (A)The Indian Independence Act 1947.  
 (B)Swaraj Declaration 1937.  
 (C)Bombay Congress Declaration 1920.  
 (D)Karachi Congress Session 1931.
- 7 The Family Planning Programme suffered a setback during the years of ----- 1
- 8 The practice of marrying within the caste is known as----- 1
- 9 According to scholars like Amartya Sen., famines do not only occur due to fall in food grain production but also due to ----- 1
- 10 **Mark the statement true or false** 1  
 People who are born on 29 February form a minority group.
- 11 The term diversity emphasizes ----- rather than inequalities. 1
- Or
- defined state as a body that successfully claims a monopoly of legitimate force in a particular territory.
- 12 Before independence there was the British Indian arrangement of dividing India into large provinces. These provinces were called ----- 1
- 13 **Mark the statement true or false** 1  
 The English word 'caste' is actually a borrowing from the Portuguese 'casta', that means Racial division.
- 14 If prejudice describes attitudes and opinions, ----- refers to actual behavior towards other group or individual. 1
- 15 **Mark the statement true or false** 1  
 Shri B P Mandal headed The First Backward Classes Commission.
- 16 **Correct the incorrect statement and rewrite** 1

The state of Telangana was created in 2000 on the basis of separate tribal identity.

### SECTION B

- 17 Give instances to prove that minority groups can be disadvantaged in one sense but not in other. 2  
 Or  
 What are integrationist policies? How are they dangerous for a nation?
- 18 Using Durkheim's study of Suicide, state what is aggregate statistics. 2
- 19 A few work harder than those who are located at the lower ranks of society. As a South American proverb says-"If hard labour were really such a good thing, the rich would keep it all for themselves!" Defend this proverb using an example. 2  
 Or  
 Identify the reasons that can be attributed for the rise of Dalit Movements.
- 20 Illustrate the correlation between disability and poverty. 2
- 21 "Caste system still exists in Indian society"- Do you agree with this? Support your answer by giving two suitable points. 2
- 22 Why do minorities need protection from state? 2  
 OR  
 Mention two basic features of community identities.
- 23 Write the role of the ideas of separation and hierarchy in the caste-system . 2
- 24 Mention two main reasons for the lack of a sharp fall in the birth rates in India . 2
- 25 How can we say that history present both good and bad examples in regard to religious pluralism in India? 2

## SECTION C

### 26 Read the following source/ passage and answer questions that follow

4

“Opinions also differ on the exact age of the caste system. It is generally agreed, though, that the four varna classification is roughly three thousand years old. However, the ‘caste system’ stood for different things in different time periods, so that it is misleading to think of the same system continuing for three thousand years. In its earliest phase, in the late Vedic period roughly between 900 — 500 BC, the caste system was really a varna system and consisted of only four major divisions. These divisions were not very elaborate or very rigid, and they were not determined by birth. Movement across the categories seems to have been not only possible but quite common. It is only in the post-vedic period that caste became the rigid institution that is familiar to us from well known definitions.”

(i). Which of the following is not a principle on which the caste system is based?

- (A) Hierarchy (B) Wholism  
(C) Separation (D) Competition

(ii) Caste based occupations are ----- in nature.

- (A) hereditary (B) non-segmental  
(C) equal (D) less rigid

(iii) Which of the following is **not** a correct term about ‘Jati’?

- (A) Its local classification that varies from region to region.  
(B) It has a segmental organisation.  
(C) Restriction on food sharing  
(D) It is an All India aggregative classification.

(iv) Caste became the rigid institution during-

- (A) Vedic period (B) Post Vedic period  
(C) Pre Vedic period (D) Post independence period

### 27 Read the following Source/passage and answer the questions that follow

4

*“We are disabled by buildings that are not designed to admit us, and this in turn leads to a range of further disablements regarding our education, our chances of gaining employment, our social lives and so on. The disablement lies in the construction of society, not in the physical condition of the individual .”(Brisenden 1986 :176).*

(i). Who argued that the invisibility of the disabled can be compared to the protagonist of the book ‘Invisible man’?

- (A). Tarabai Shinde (B) Jotiba Phule  
(C) Anita Ghai (D) Daya Pawar

(ii) Labels such as ‘Bechara’ (Poor thing) accentuate the ----- for the disabled person.

- (A) state of poverty (B) marginalized status  
(C) low status (D) victim status

(iii) Which one of the following statement is **not** a common features central to the public perception of ‘diability’ all over the world ?

- (A) Disability is understood as a biological given.  
(B) Whenever a disabled person is confronted with problems, it is taken for granted that the problems originate from her/his impairment.  
(C). Disability is supposed to be linked with the disabled individual’s self perception.

(D) The very idea of disability suggests that they are not in need of help.

(iv). Which one of the following movie has an exemplary story of the grit and determination of a young boy who cannot hear and speak but has a passion for cricket, and finally, excels as a bowler.?

- (A) Fardeen (B) Iqbal  
(C) Andheri Duniya (D) Quest for life

28 Read the following Source/passage and answer the questions that follow

2+2=4

“Assertions of tribal identity are on the rise. This can be laid at the door of the emergence of a middle class within the tribal society. With the emergence of this class in particular, issues of culture, tradition, livelihood, even control over land and resources, as well as demands for a share in the benefits of the projects of modernity, have become an integral part of the articulation of identity among the tribes. There is, therefore, a new consciousness among tribes now, coming from its middle classes. The middle classes themselves are a consequence of modern education and modern occupations, aided in turn by the reservation policies.”

(i) What are the factors behind the assertion of tribal identities today ?

(ii) Mention the two broad sets of issues most important in giving rise to tribal movements.

29 Express the correlation between population growth and overall levels of economic development as mentioned under the theory of demographic transition.

4

30 Trace the factors behind emergence of dominant castes in Indian society.

4

**Or**

“Changes in social structure is changing the family structure in India.” Justify the statement with suitable points.

31 Evaluate the contribution made by different sections of society as a part of struggle for women’s equality and rights with an objective of improving their status.

4

32 Explain in details the concept of secularism in the Indian context.

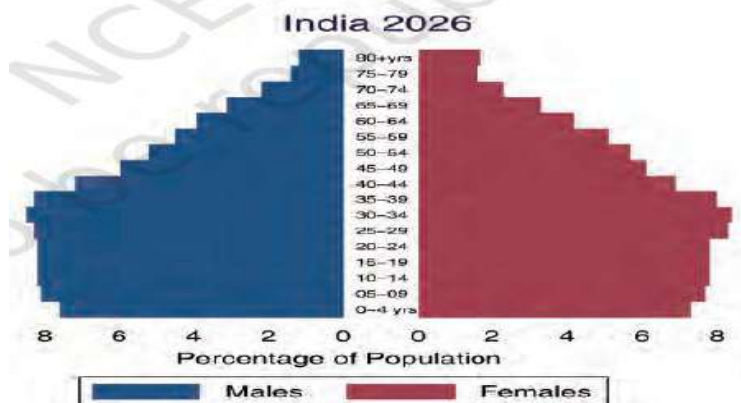
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#### SECTION D

33 What is civil society? Discuss its relevance at present .

2+4=6

34



What does the bulge in the above given population pyramid indicate? The bias towards younger age groups in the age structure is believed to be an advantage for India. Explain

**OR**



Express the reasons for the regional pattern of low child sex ratio in India

35 Examine the role of state’s initiatives to address caste and tribe discrimination.

6

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# DAV INSTITUTIONS WEST BENGAL ZONE

## MID TERM EXAMINATION

SESSION: 2022 – 2023

CLASS: XII

SUBJECT: GEOGRAPHY (029)

MAXIMUM MARKS: 70

TIME: 3 HOURS

### General Instructions:

1. There are **Three Sections** & 30 questions in all.
2. All questions are compulsory.
3. **Section A** comprises Question number 1 to 15 carrying 1 mark each.
4. **Section B** comprises Question number 16 to 22 are short answer type questions carrying 3 marks each.
5. **Section C** comprises Question number 23 to 28 are long answer type questions carrying 5 marks each.
6. Question number 29 & 30 are **Map based questions** related to identification and location of map.
7. Attach the maps provided inside your answer book.

### SECTION-A

1. What are the names of the Continents/ Countries marked as A, B, C, D, E and F?

1

Region	Population (2018)	Land Area (Km <sup>2</sup> )	Density (P/Km <sup>2</sup> )	World Share (in percentage)
<b>F</b>	4,545,133,094	31,033,131	146	59.5%
<b>E</b>	1,287,920,518	29,648,481	43	16.9%
<b>D</b>	742,648,010	22,134,900	34	9.7%
<b>C</b>	652,012,001	20,139,378	32	8.5%
<b>B</b>	363,844,490	18,651,660	20	4.8%
<b>A</b>	41,261,212	8,486,460	5	0.5%

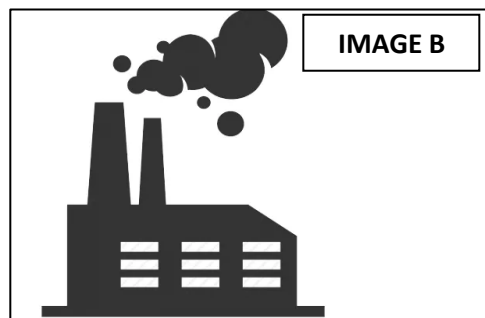
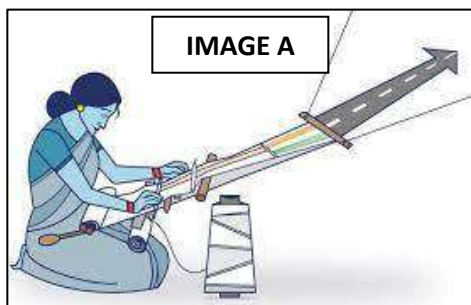
- A. A- Asia, B- Latin America & the Caribbean, C- Africa, D- Northern America, E- Europe, F- Oceania
- B. A- Asia, B- Europe, C- Africa, D- Northern America, E- Latin America & the Caribbean, F- Oceania
- C. A- Oceania, B- Northern America, C- Latin America & the Caribbean, D- Europe, E- Africa, F- Asia
- D. A- Oceania, B- Latin America & the Caribbean, C- Africa, D- Northern America, E- Europe, F- Asia
2. Name and identify the campaign programme associated with the given logo. What is the issue that this programme tries to address?

1





- A. “Sarba Siksha Abhiyan”; Issue – increase in number of illiterates in the developed state.  
 B. “Beti Bachao Beti Padhao”; Issue - decline in female child sex ratio.  
 C. “Samagrik Shiksha”; Issue - decline in female literacy rate.  
 D. “Kanyashree”; Issue – increase in the number of school dropout.
3. Which of the following pair is NOT correctly matched? 1
- A. San-Francisco --- Technopolis  
 B. Iron & Steel Industry --- Footloose  
 C. Rust Bowl of U.S.A. --- Pittsburg  
 D. New Ruhr Landscape --- Opel Car Assembly
4. Which group of states is highly affected by concentration of Arsenic? 1
- A. Rajasthan – Maharashtra  
 B. Punjab – Haryana  
 C. West Bengal – Bihar  
 D. Madhya Pradesh – Chhattisgarh
5. How Human Development Index differ from Human Poverty Index? 1
6. Which of the following images given below is a true representation of cottage industry and why? 1



7. Mention any two causes of the negative growth rate of population in India during 1911 – 1912. 1
8. How rural settlements differ from urban settlement in term of social relationship? 1
9. “Some States utilise large proportion of their groundwater potential.” Substantiate. 1
10. Define Culturable Wasteland. 1

OR

Mention the aim of National Mission for Sustainable Agriculture (NMSA)

**Q. No.11 to 15 is assertion-reason based question. Choose the correct option given below to answer these questions –**

- A. Both A and R is true and R is the correct explanation of A.  
 B. Both A and R is true and R is not the correct explanation of A.  
 C. A is true but R is false  
 D. A is false but R is true
11. **Assertion (A):** Neo determinism states that possibilities can be created within the limits and there is no free run without accidents. 1  
**Reason (R):** The free run that the developed economies attempted to take has already resulted in greenhouse effect, global warming, receding glaciers etc.
12. **Assertion (A) :-**The yield per unit area is high but per labour productivity is low in Intensive Subsistence Agriculture. 1  
**Reason (R) :-** Intensive subsistence agriculture is practiced in the areas of high population density and the farming lacks in mechanization due to the small size of the land holdings.

13. **Assertion (A) :-** The Ruhr region faced changes in the industrial structure despite of being one of the most prosperous industrial regions in Europe. 1  
**Reason (R) :-** The demand for iron ore declined and coking coal was exhausted.
14. **Assertion (A):** In India work participation rate tends to be higher in the areas of high level of economic development. 1  
**Reason (R):** This is due to high number of manual workers needed to perform subsistence or near subsistence economic activities.
15. **Assertion (A) :-** Many towns and cities perform a specialized function and known for some specific activities. 1  
**Reason (R) :-** The specialized cities, as they grow into metropolises become multifunctional.

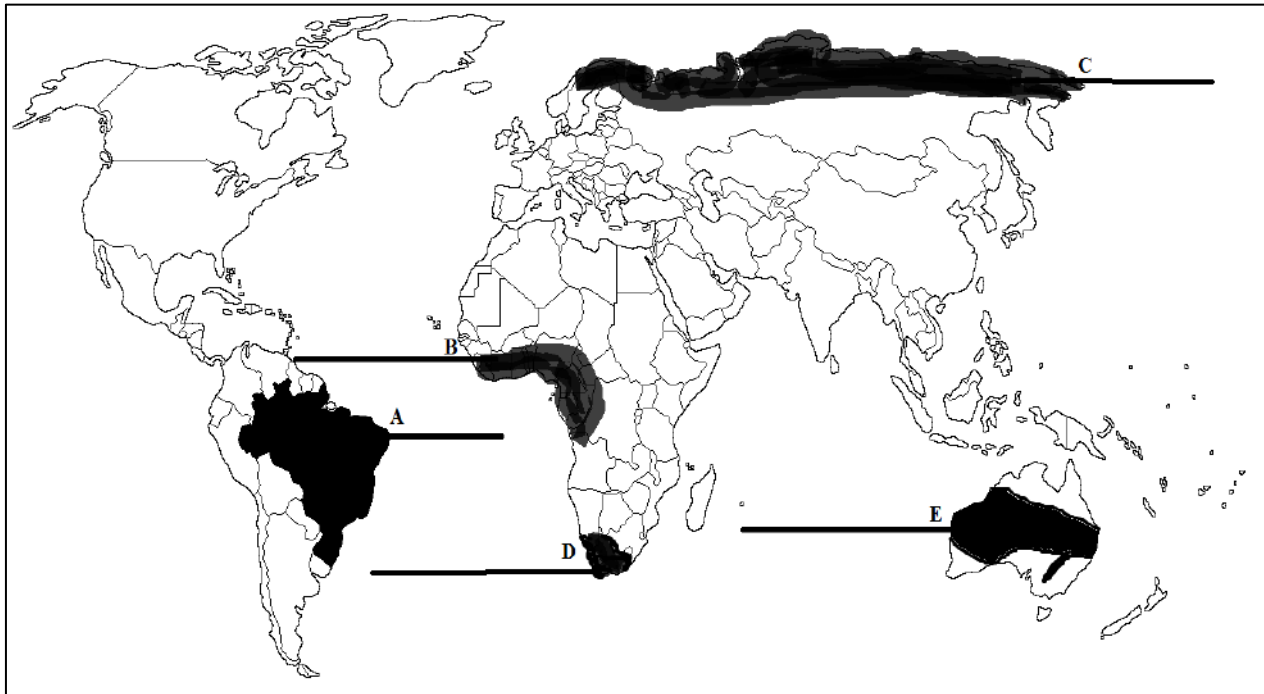
### SECTION-B

16. “The neo-determinism conceptually attempts to bring a balance nullifying the ‘either’ ‘or’ dichotomy.” Do you agree with the statement? Support your view point. 3  
**Read the passage carefully and answer the questions that follow (Q.No.17 -19):-** 1x3
- A small increase in population is desirable in a growing economy. However, population growth beyond a certain level leads to problems. Of these the depletion of resources is the most serious. Population decline is also a matter of concern. It indicates that resources that had supported a population earlier are now insufficient to maintain the population. The deadly HIV/AIDS epidemics in Africa and some parts of the Commonwealth of Independent States (CIS) and Asia have pushed up death rates and reduced average life expectancy. This has slowed down population growth. Family planning is the spacing or preventing the birth of children. Access to family planning services is a significant factor in limiting population growth and improving women’s health. Propaganda, free availability of contraceptives and tax disincentives for large families are some of the measures which can help population control. However, according to some demographers, population decline can happen due to population crash caused by famine, disease and war.*
17. Find out the co-relation between population and economy.  
 A. High Population leads to high economic growth.  
 B. High population growth leads to limited economic growth.  
 C. Less population leads to exponential economic growth.  
 D. Less population leads to fractional economic growth.
18. Population decline is a matter of –  
 A. happiness  
 B. concern  
 C. deliberate effort  
 D. thriving economy
19. What according to you is a significant factor in controlling population growth?  
 A. family planning  
 B. tax disincentives for large families  
 C. free availability of contraceptives  
 D. population crash caused by famine etc.
20. What are the three basic areas of Human Development? Elaborate. 3

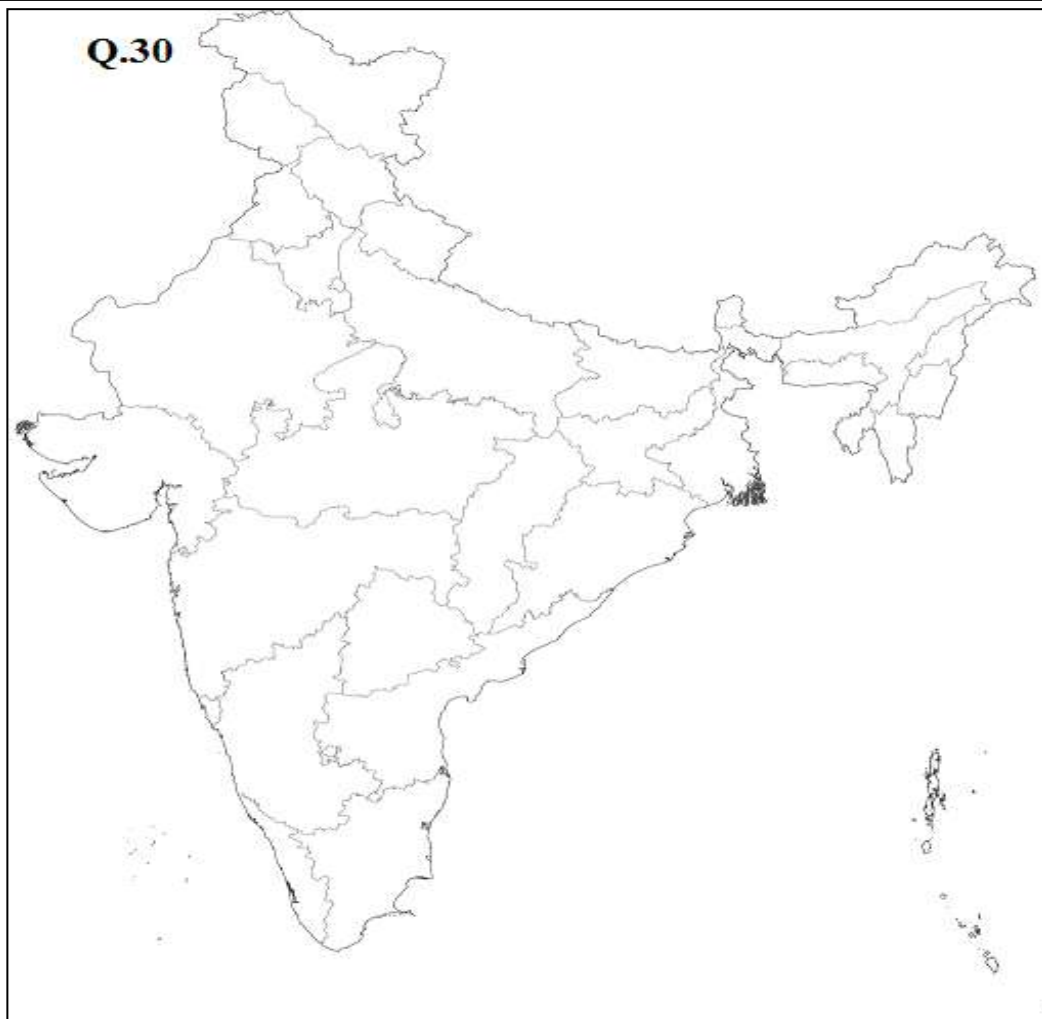
21. Give reasons: 1.5+1.5
- a) "The dairy farms always develop near the peripheral areas of the urban centres."
- b) "Future of shifting cultivation is bleak."
- OR,
- Enlist the characteristics of Kolkhoz. 3
22. How can one identify an urban agglomeration? Give three arguments. 3
- SECTION-C**
23. "Commercial livestock rearing is essentially associated with western culture..." Why? Give any two reasons. Also explain any four features of ranching practiced in developed countries of the world. 1+4
24. Explain the concept of 'High Tech' industries with examples. 5
- OR,
- Discuss the major trends of modern industrial activities especially in the developed countries of the world.
25. "Wide variation in the growth rate of population in India highlights various social problems." Substantiate the statement focused on the adolescent population of India. 5
26. "Types of settlement are determined by the extent of the built-up area and inter house distance." Based on the statement classify the rural settlement of India and explain them briefly. 1+4
27. What are the aims and objectives of watershed management? What are the various projects and methods implemented by the Central and State Government to initiate watershed management? 2+3
28. What steps were taken by the Govt. of India after Independence to increase food grains production? Also explain the steps taken to remove the regional disparities in agricultural development in the country. 3+2
- OR,
- What problems were faced by the Indian peasants due to the lack of commercialization and constraints of financial resources and indebtedness. 5
29. Five Geographical features shown on the given political outline map of the world as A, B, C, D and E. Identify each item with the help of the information given and write their correct names on the lines drawn near to them. 1x5
- A. Largest Country in South America in terms of area
- B. Areas of Subsistence Farming
- C. Areas of Nomadic Herding
- D. Areas of Extensive Commercial Grain Farming
- E. Areas of Commercial Livestock Rearing
30. On an outline Political map of India locate and label the following.(any five) 1x5
- i. Least populous state of India.
  - ii. Leading producer state of tea.
  - iii. Leading producer state of wheat
  - iv. A city of Tamil Nadu having more than 10 million populations.
  - v. A Union Territory Considered as urban agglomeration.
  - vi. State having highest density of population (2011).

NAME: \_\_\_\_\_ CLASS: \_\_\_\_\_ SEC: \_\_\_\_\_ ROLL NO: \_\_\_\_\_

29.



30.



1x5