

DAV BR PUBLIC SCHOOL, BINA

Session (2024-25)

Class: XII

Integrated Assignment No: 01



Date Posted	02-05 -24	Expiry Date	15-06-2024
--------------------	------------------	--------------------	-------------------

PHYSICS

1.	Solve the worksheet which is given below in a link worksheet
----	---

CHEMISTRY

S.NO	
1.	Which of the following compounds is termed as antifreeze ____ a) Ethylene Glycol b) Ethanol c) Glycerol d) Isopropyl alcohol
2.	Positive deviation from Raoult's law is observed when: a) inter molecular forces of attraction between the two liquids is greater than that between individual liquids. b) inter molecular forces of attraction between the two liquids is smaller than that between individual liquids. c) force of attraction between two liquids is greater than that between individual liquids. d) force of attraction between two liquids is smaller than that between individual liquid
3.	Solutions of two electrolytes 'A' and 'B' are diluted. The $m\Lambda$ of 'B' increases 1.5 times while that of A increases 25 times. Which of the two is a strong electrolyte? Justify your answer
4.	Explain why on addition of 1 mol of NaCl to 1 litre of water, the boiling point of water increases, while addition of 1 mol of methyl alcohol to one litre of water decreases its boiling point.

5.	<p>The unit of ebullioscopic constant is _____.</p> <p>(i) K kg mol^{-1} or K (molality)^{-1}</p> <p>(ii) mol kg K^{-1} or $\text{K}^{-1}(\text{molality})$</p> <p>(iii) $\text{kg mol}^{-1} \text{K}^{-1}$ or $\text{K}^{-1}(\text{molality})^{-1}$</p> <p>(iv) K mol kg^{-1} or K (molality)</p>
6.	<p>The positive value of the standard electrode potential of Cu^{2+}/Cu indicates that _____.</p> <p>(i) this redox couple is a stronger reducing agent than the H^+/H_2 couple.</p> <p>(ii) this redox couple is a stronger oxidising agent than H^+/H_2.</p> <p>(iii) Cu can displace H_2 from acid.</p> <p>(iv) Cu cannot displace H_2 from acid.</p>
7.	<p>Calculate the emf of the cell in which the following reaction takes place:</p> $\text{Ni(s)} + 2\text{Ag}^+ (0.002 \text{ M}) \rightarrow \text{Ni}^{2+} (0.160 \text{ M}) + 2\text{Ag(s)}$ <p style="text-align: right;">Given</p> <p>that $E^0(\text{cell}) = 1.05 \text{ V}$.</p>
8.	<p>What are ideal solutions? Give the conditions for ideal solutions.</p>
9.	<p>Assume that argon exerts a partial pressure of 6 bar. Calculate the solubility of argon gas in water. (Given Henry's law constant for argon dissolved in water, $K_H = 40 \text{ kbar}$)</p>
10.	<p>Calculate the freezing point of a solution containing 8.1 g of HBr in 100 g of water, assuming the acid to be 90 % ionized.</p> <p>[Given: Molar mass Br = 80 g/mol, K_f water = 1.86 K kg / mol]</p>

BIOLOGY

S.NO	
1	Pollen Grains in Rosaceae are shed at how many celled stage. a 2 b 3 c 4 d 1
2	Which one of the following shows coenocytic condition? a. pollen b. egg c. Endosperm d. zygote
3.	What is the ploidy of an endosperm?
4	Why are pollen grains often preserved as fossils ?
5	Explain the process of Microsporogenesis with the help of a suitable diagram.
6	What will you do in order to develop a hybrid in a self pollinated monoecious plant . Explain the steps.
7	Differentiate between Microsporogenesis and Megasporogenesis or any two types of gametogenesis observed in human beings.
8	“Pollen grains are small and motile unlike Eggs”. Justify the given statement giving suitable examples..
9	Make a colourful 3D model of an anatropous ovule / Globular embryo/T.S of an anther showing various layers ./ Embryo sac enclosed in the sporophyte using clay.

MATHS

S.NO	
1.	Let $A = \mathbb{R} \setminus \{3\}$ and $B = \mathbb{R} - \{1\}$. Consider the function $f: A \rightarrow B$ defined by $f(x) = (x-2)/(x-3)$. Is f one-one and onto? Justify your answer.
2.	Determine the principal value of $\cos^{-1}(-1/2) + \tan^{-1} \sqrt{3} - \sec^{-1}(-2)$
3.	Find the value of $\cos^{-1}(1/2) + 2 \sin^{-1}(1/2)$.

4.	Let $f : N \rightarrow Y$ be a function defined as $f(x) = 4x + 3$, where, $Y = \{y \in N : y = 4x + 3 \text{ for some } x \in N\}$. Show that f is one-one and onto.
5.	Check whether the relation R defined on the set $A = \{1, 2, 3, 4, 5, 6\}$ as $R = \{(a, b) : b = a + 1\}$ is reflexive, symmetric or transitive.

ECONOMICS

S.NO	
1.	State, whether the following statement is true or false: A good can be intermediate good in one case and a final good in another case.
2.	Which of the following affect national income. a) Goods and Service tax b) corporation tax b) Subsidies d) none of these
3.	National income is the sum of factor income accruing to : a) Nationals b) economic territory c) Residents d) Both residents and non – residents
4.	Explain circular flow of income in a two sector economy?
5.	Which of the following are final goods and which are intermediate goods? Give reasons. i) Milk purchased by a tea stall ii) Bus purchased by a school iii) Juice purchased by a student from the school canteen
6.	Which of the following is factor income from abroad for Indian residents and why? i) Profits of foreign bank with a branch at Kochi ii) Rent received by Indian on the building rented to foreign embassy in India iii) Salary paid to the Indian High commission in London by the Government of India
7.	Explain the problem of double counting in estimation of national income. With the help for example. Also explain two alternative ways of avoiding the problem.
8.	How will you treat the following while estimating national income of india? Give reasons for your answer. I) Salaries received by Indian residents working in the Russian embassy in india. II) Profits earned by an Indian bank from its branches abroad. III) Entertainment tax received by the government

9.	Can Domestic Income be greater than National Income?
10.	Can the Gross Domestic Capital Formation be less than Gross Domestic Fixed Capital Formation?
11.	Can Nominal GDP be less than Real GDP?
12.	Explain the methods of measuring National Income. Also state their precautions.

BUSINESS STUDIES

S.NO	
1.	Explain the term Management. Also describe the main points in the definition of Management.
2.	Describe in brief characteristics of Principles of management.
3.	Radhika automobiles aim to produce and sell two lakh cars in 2024. To achieve this objective the production department strives for timely production and sales department takes all possible steps to sell them. Due to combined efforts of all departments, the company is able to achieve its targets. Which significance of management is highlighted in this given case, explain? And also explain three more points of significance.
4.	<p>Real alliance limited is a well known cement company in India. It is able to earn adequate revenues over costs. Its capital base, number of employees and production turnover has increased manifolds over the years. The rate of profitability of the business is also creditable. The employees of the company are happy and satisfied with their remuneration, working conditions, promotion policy etc. as a part of its moral obligation, the company has taken many initiatives for providing employment to specially abled persons and promoting literacy in the village adopted by it.</p> <p>In the context of the above case:</p> <p>a) Identify and explain the various types of objectives of management being fulfilled by Real alliance Ltd. By quoting the lines from the paragraph.</p>
5.	<p>“Coordination does not emerge automatically but a conscious effort is required for it.” Which characteristic of coordination is highlighted in this statement?</p> <p>Also Explain other features of coordination.</p>

6.	<p>Sonali is the manager of a large company manufacturing garments for kids. She plans her winter collection in the month of August itself. Then she ensures that there is adequate workforce. She continuously monitors whether production is proceeding according to plans. She asks the marketing department to prepare their promotional and advertising campaigns also. a) Identify and explain the concept of management explained in the above para.</p>
7.	<p>A.R. Rehman is the first Indian to win Oscar award for his composition 'Jai Ho'. His composition of music is unique as he has used the singing notes in the manner that is entirely his own interpretation. Like A.R. Rehman, Mr. Sugan, general manager in Star Ltd. used his knowledge of management in unique manner. All the employees working under his guidance are happy and satisfied because of his good behaviour. He everyday rewards and appreciates his employees for coming office on time, performing their assigned tasks with best of their capabilities. Moreover, Mr. Sugan treats his employees as fairly as possible. He does not discriminate his employee on the basis of sex, religion, caste, belief, etc. a) Identify and explain the nature of management highlighted in the above case.</p>
8.	<p>The principles of Taylor and Fayol are mutually complementary. One believed that management should share the gains with the workers while the other suggested that employees' compensation should depend on the earning capacity of the company and should give them a reasonable standard of living. Identify and explain the principles of Fayol and Taylor referred to in the above paragraph</p>
9.	<p>Project work-</p> <p>Visit any organization and study the applicability of Principles of Management in the organization. Present your report in the form of Project File. Covering following points-</p> <p>Introduction of the organization.</p> <p>Principles of Management applicable in the organization and its positive effects.</p> <p>Principles of Management not applied in the organization and its adverse effects.</p>

ACCOUNTANCY

S.NO	
1.	State the conditions under which capital balances may change under the system of a Fixed Capital Account.
2.	<p>Ravi and Mohan were partner in a firm sharing profits in the ratio of 7:5. Their respective fixed capitals were Ravi Rs. 10,00,000 and Mohan Rs. 7,00,000. The partnership deed provided for the following:-</p> <p>(i) Interest on capital @ 12% p.a.</p> <p>(ii) Ravi's salary Rs. 6000 per month and Mohan's salary Rs. 60000 per year. The profit for the year ended 31-03-2007 was Rs. 5,04,000 which was distributed equally without providing for the above. Pass an adjustment Entry.</p>
3.	<p>A and B are partners sharing profits in proportion of 3:2 with capitals of Rs. 40,000 and Rs. 30,000 respectively. Interest on capital is agreed at 5 % p.a. B is to be allowed an annual salary of Rs. 3000 which has not been withdrawn. During 2001 the profits for the year prior to calculation of interest on capital but after charging B's salary amounted to Rs. 12,000. A provision of 5% of this amount is to be made in respect of commission to the manager.</p>
4.	<p>Ram and Shyam are partners from 1st Jan 2020. They disclose the profits for last three years as follows :</p> <p>2021: Rs.19,000 (Including an abnormal gain of Rs.4,000)</p> <p>2022: Rs.25,000 (After charging abnormal loss of Rs.2,000)</p> <p>2023: Rs.33,000 (Excluding Rs.3,000 as insurance premium of the firm)</p> <p>Calculate the value of Goodwill on the basis of 2 years purchase of average profits for last three years.</p>
5.	<p>The average profits for last 5 years of a firm are Rs. 20,000 and goodwill has been worked out Rs. 24,000 calculated at 3 years purchase of super profits. Calculate the amount of capital employed assuming the normal rate of interest is 8 %.</p>

6.	<p>Hari , Om, and Krishna were partners in affirm sharing profits and losses in the ratio of 3:3:2, They decided to share profits equally w.e.f. April 1, 2013. On that date, the profit and Loss Account showed a credit balance of Rs.24,000. Instead of closing the Profit and Loss account , it was decided to record an adjustment entry rectifying the change in the profit sharing ratio. You are required t o record necessary journal entry to give effect to the same.</p>
7.	<p>A, B and C were partners in a firm having capitals of Rs. 60,000, Rs. 60,000 and Rs.80,000 respectively. Their current account balances were A- Rs. 10,000, B- Rs. 5000 and C- Rs. 2000 (Dr.). According to the partnership deed the partners were entitled to an interest on capital @ 5% p.a. C being the working partner was also entitled to a salary of Rs. 6,000 p. a. The profits were to be divided as follows:</p> <p>(i) The first Rs. 20,000 in proportion to their capitals. (ii) Next Rs. 30,000 in the ratio of 5:3:2. (iii) Remaining profits to be shared equally.</p> <p>During the year the firm made a profit of Rs. 1,56,000 before charging any of the above items. Prepare the profit and loss appropriate on A/C.</p>
8.	<p>A, B and C are partners in a firm. A withdrew Rs. 10000 in the beginning of each month of the year. Calculate interest on A's drawing @ 6% p.a.</p> <p>A, B and C are partners in a firm, B withdrew Rs. 8000 at the end of each quarter. Calculate interest on B's drawings @ 6% p.a.</p>
9.	<p>Farhan and Kamran are partners in a firm. Farhan is entitled to a salary of Rs.4000 p.m. and a commission of 10% of net profit before charging any commission. Kamran is entitled to a salary of rs.10,000 p.a. and a commission of 10% of net profit after charging all commissions. Net profit before charging commission for the year ended 31.3.24 was Rs.66,000. Pass necessary journal entries and show the distribution of profits between partners.</p>

PHYSICAL EDUCATION

S.NO	
1.	If there is 19 team in a knockout volleyball tournament then the number of matches may be --- a. 10 c. 17 b. 11 d. 18
2.	Tabular method of fixture is related with a. League Fixture c. Challenges Tournaments b. Knockout fixture d. Consolation Tournaments
3.	If number of teams are 7 in league tournament then number of matches may calculate by using a. N-1 c. $N(N-1)/2$ b. $N(N-1)$ d. N
4.	Define Bye and write the procedure of distribution of byes with examples.
5.	Differentiate between Intramural and Extramural Tournaments.
6.	Differentiate between Bye and Seeding with examples.
7.	Draw a knock fixture of 13 teams using all the specifications.
8.	Define specific sports and write short note on:- a. Run for Fun b. Sports Day
9	Draw a knockout fixture of 21 teams with four special deeded teams.
10	Explain the concept of sports management with their components.

COMPUTER SCIENCE

S.NO	
1.	State True or False "Variable declaration is implicit in Python."
2.	Which of the following is an invalid datatype in Python? (a) Set (b) None (c) Integer (d) Real

3.	<p>Given the following dictionaries dict_exam={"Exam":"AISSCE", "Year":2023} dict_result={"Total":500, "Pass_Marks":165} Which statement will merge the contents of both dictionaries?</p> <p>a. dict_exam.update(dict_result) b. dict_exam + dict_result c. dict_exam.add(dict_result) d. dict_exam.merge(dict_result)</p>
4.	<p>Consider the given expression: not True and False or True Which of the following will be the correct output if the given expression is evaluated? (a) True (b) False (c) NONE (d) NULL</p>
5.	<p>Select the correct output of the code: a = "Year 2022 at All the best" a = a.split('2') b = a[0] + ". " + a[1] + ". " + a[3] print (b)</p> <p>(a) Year . 0. at All the best (b) Year 0. at All the best (c) Year . 022. at All the best (d) Year . 0. at all the best</p>
6.	<p>Which of the following statement(s) would give an error after executing the following code? S="Welcome to class XII" # Statement 1 print(S) # Statement 2 S="Thank you" # Statement 3 S[0]= '@' # Statement 4 S=S+"Thank you" # Statement 5</p> <p>(a) Statement 3 (b) Statement 4 (c) Statement 5 (d) Statement 4 and 5</p>
7.	<p>Assertion (A):- If the arguments in the function call statement match the number and order of arguments as defined in the function definition, such arguments are called positional arguments. Reasoning (R):- During a function call, the argument list first contains default argument(s) followed by positional argument(s).</p>
8.	<p>Rao has written a code to input a number and check whether it is prime or not. His code is having errors. Rewrite the correct code and underline the corrections made.</p> <pre>def prime(): n=int(input("Enter number to check :: ")) for i in range (2, n//2): if n%i=0: print("Number is not prime \n") break else: print("Number is prime \n')</pre>

9. (a) Given is a Python string declaration:
myexam="@@CBSE Examination 2022@@"
Write the output of: print(myexam[::-2])
(b) Write the output of the code given below:
my_dict = {'name': "Aman", "age": 26}
my_dict['age'] = 27
my_dict['address'] = "Delhi"
print(my_dict.items())

10. Predict the output of the Python code given below:
def Diff(N1,N2):
 if N1>N2:
 return N1-N2
 else:
 return N2-N1
NUM= [10,23,14,54,32]
for CNT in range (4,0,-1):
 A=NUM[CNT]
 B=NUM[CNT-1]
 print(Diff(A,B),'#', end=' ')
OR
Predict the output of the Python code given below:
tuple1 = (11, 22, 33, 44, 55 ,66)
list1 =list(tuple1)
new_list = []
for i in list1:
 if i%2==0:
 new_list.append(i)
new_tuple = tuple(new_list)
print(new_tuple)

APPLIED MATHS

S.NO	
1.	<p>Case study based question : Susy is rowing a boat. She takes 6 hours to row 48 km upstream whereas she takes 3 hours to go same distance downstream.</p> <p>Based on the above information, answer the following questions (answer any four)</p> <ul style="list-style-type: none">(i) find the speed of rowing in still water(ii) find the speed of stream?(iii) find the average speed?(iv) The stream is flowing at the speed of 4 km/h. if Susy rows a certain distance upstream in 3.5 hours and returns to the same place in 1.5 hours, then find the speed of Susy's boat in still water.
2.	<p>Solve the following:</p> <ul style="list-style-type: none">(a) In a 1000 metres race, A defeats B by 300 metres and B defeats C by 200meters. In the same race by how many metres will A defeat C?(b) In a 500 metres race, A defeats B by 60 metres (or) 12 seconds. What is the time taken by A to complete the race?
3.	<p>Let $m \in \mathbb{Z}^+$ and consider the relation R_m defined by $a R_m b$ if and only if $a \equiv b \pmod{m}$ Then R_m is an equivalence relation.</p>

4.

Three taps A, B and C can fill a tank in 12 hrs, 15 hrs and 20 hrs respectively. If A is open all the time B and C are open one hour each alternately.

Based on the above information, answer the following questions:

- (i) Find the part of tank filled in 2 hrs.
- (ii) Find the part of tank filled in 2 hrs.
- (iii) Find the part of tank filled by A and B in 1 hr.

OR

If pipes B and C are opened together, then find the time in which tank can be filled in.

ENGLISH

S.NO

Answer the following questions in 120-150 words.

1.

Grinding poverty and tradition condemn the children of rag pickers or bangle-makers to a life of exploitation. Such children are deprived of all opportunities in life. Mukesh, who opts out of the existing profession of his forefathers by resolving to start a new job of a motor mechanic symbolizes the modern youth. What lesson do we learn from Mukesh's example?

2.

How is Mukesh's attitude towards his situation different from that of Saheb? Why?

3.

The barefoot ragpickers of Seemapuri live on the periphery of Delhi, yet metaphorically speaking, miles away from it. Comment

4.

Douglas fully realized the truth of Roosevelt's statement, "All we have to fear is fear itself." How did this realization help him brush aside his fear and become an expert swimmer?

5.

How did the instructor make Douglas a good swimmer?

6.

Desire, determination and diligence lead to success. Explain the value of these qualities in the light of Douglas' experience in 'Deep Water.'

7.

Do you think that the third level was a medium of escape for Charley? Why?

8.

Philately helps keep the past alive. Discuss other ways in which this is done. What do you think of the human tendency to constantly move between the past, the present and the future?

9.

At the beginning of the story, Sam is skeptical of Charley's discovery of the third level. By the end of the story, the reader is told that he found the third level and traveled back in time. How would Sam diagnose himself?