Bal Bharati PUBLIC SCHOOL

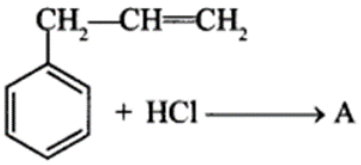
CLASS-XIIA HOLIDAY HOMEWORK (2022-23)

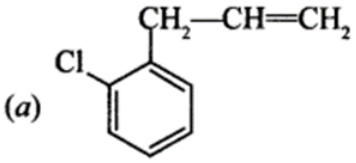
SUBJECT	HOMEWORK ASSIGNMENT
HINDI	1. दिए गए तीन विषयों में से किसी एक विषय पर संवादों की सहायता से संक्षिप्त स्क्रिप्ट लिखिए- क) नदियों में प्रदूषण ख) नल से लगातार बहता हुआ पानी ग) स्कूली बच्चों पर बस्ते का बोझ प्रश्न-2. आपके आसपास किसी ऐसी चीज पर एक लेख लिखें जो आपको किसी वजह से वर्णनीय प्रतीत होती हो। वह कोई चाय की दुकान हो सकती है, कोई सैलून हो सकता है, कोई खोमचे वाला हो सकता है या किसी खास दिन पर लगने वाला हाट- बाजार हो सकता है। विषय का सही अंदाजा देने वाला शीर्षक अवश्य दें तथा चित्र चिपकाएँ । प्रश्न-3. आप अखबार के मुख्य पृष्ठ पर कौन-से छह समाचार शीर्षक /सुर्खियां (हेडलाइन) देखना चाहेंगे । उन्हें लिखिए तथा समाचार पत्र का नाम देते हुए मुख्यपृष्ठ (फ्रंट पेज) तैयार कीजिए। प्रश्न-4. निम्नलिखित विषयों पर दो से तीन सौ शब्दों में लेख लिखिए । 1. एक कामकाजी औरत की शाम 2. सावन की पहली झड़ी 3. मेरा प्रिय टाइमपास
ENGLISH	**1. Draft an invitation card for the exhibition of Bamboo wooden craft items.** **2.. Write an article on any ONE of the following topics. {Word Limit 200—250}** **· Importance of Communication Skill** **Importance of National Scholarships for Students** **The Impact of Advertisements on the Younger Generation .** **3. Prepare a speech on "Role of Students In National Development" {Word Limit 200—250}** **4. Write and complete all question and answers of chapters completed in your online classes in note book.**
MATHEMATICS	**Q.1 Let R be equivalence relation in the set A ={ 0,1,2,3,4,5} given by R={ (a,b): 2 divides (a-b)} then, Write equivalence class[0].**

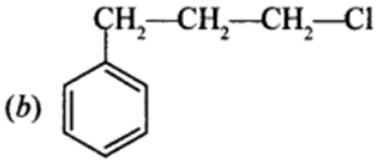
	Q.2 If a relation R on the set {1,2,3} be defined by R = {(1,2)} then R is **Q.3 Show that the relation S in the set R of real numbers defined as S={(a,b): a,b ϵ R and a≤b3 } is neither reflexive nor symmetric nor transitive** **Q.4 Show that the relation R defined by (a,b) R (c, d) implies a+d=b+c on the set N × N is an equivalence relation.** **Q.5 Evaluate cos-1(1/2) +2 sin-1 (1/2)** **Q.6 Find the value of tan-1 -sec-1(-2)** **Q.7 Write the value of cos-1(-1/2) +2 sin-1 (1/2)** **Q.8 Solve the equation cos(tan-1x)=sin(cot-13/4)** **Q.9 If (tan-1x)2+(cot-1x)2=5π2/8 then find the value of x.** **Q.10 Solve for x, cos(2sin-1x)=1/9, x>0.**
PHYSICS	**Note: Dear students make a thin practical file for activities Write the activities of section A and Section B of Physics practical.** **SECTION- A** **1.** To assemble the components of a given electrical circuit. **2.** To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source. **3.** To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram. **SECTION-B** **1.** To observe the diffraction of light due to a thin slit. **2.** To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab. **3.** To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.
CHEMISTRY	**<u>MULTIPLE CHOICE QUESTIONS :</u>** **Q.1. Most of the processes in our body occur in** **a) solid solution** **b) liquid solution**

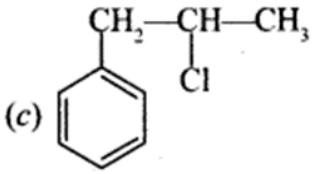
	c) gaseous solution **d) colloidal solution** **Q.2. Which of the following units is useful in relating concentration of solution with its vapour pressure?** **a) Mole fraction** **b) Parts per million** **c) Mass percentage** **d) Molality** **Q.3. When a solute is present in trace quantities the following expression is used** **a) Gram per million** **b) Milligram percent** **c) Microgram percent** **d) Parts per million** **Q.4. Partial pressure of a solution component is directly proportional to its mole fraction. This is known as** **a) Henry's law** **b) Raoult's law** **c) Distribution law** **d) Ostawald's dilution law** **Q.5. Sprinkling of salt helps in clearing the snow covered roads in hills. The phenomenon involved in the process is** **a) lowering in vapour pressure of snow** **b) depression in freezing point of snow** **c) melting of ice due to increase in temperature by putting salt** **d) increase in freezing point of snow** **Q6.C-Cl bond of chlorobenzene in comparison to C-Cl bond in methyl chloride is**

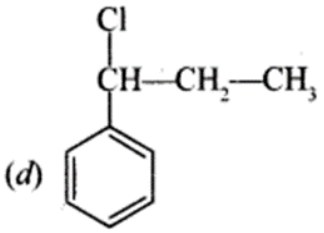
	a) Longer and weaker **b) Shorter and weaker** **c)Shorter and stronger** **d)Longer and stronger** **Q7. The decreasing order of boiling points of alkyl halides is** **a)RF > RCl > RBr > RI** **b)RBr > RCl > RCl > RF** **c)RI > RBr > RCl > RF** **d)RCl > RF > RI > RBr** **Q8. Phosgene is commonly known as** **a)thionyl chloride** **b)carbonyl chloride** **c)carbon dioxide and phosphine** **d)phosphoryl chloride** **Q9. The synthesis of alkyl fluoride is best accomplished by** **a) Finkelstein reaction** **b) Swartz reaction** **c) Free radical fluorination** **d) Sandmeyers reaction** **Q10.What is 'A' in the following reaction?**











SHORT ANSWER QUESTIONS:

1.Calculate the mole fraction of benzene in solution containing 30% by mass in carbon tetrachloride.

2. Why do gases always tend to be less soluble in liquids as the temperature is raised?

3. Why NaCl is used to clear snow from roads?

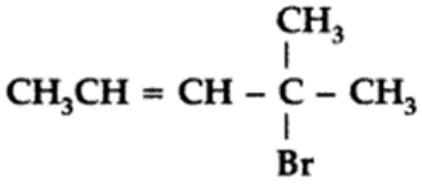
4. Why the boiling point of solution is higher than pure liquid?

5. Why water cannot be completely separated from aqueous solution of ethyl alcohol ?

6. Why is liquid ammonia bottle rst cooled in ice before opening it ?

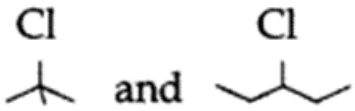
7. What is the Vanít Hoff factor in K4[Fe(CN)6] and BaCl2?

8. Give IUPAC name of :



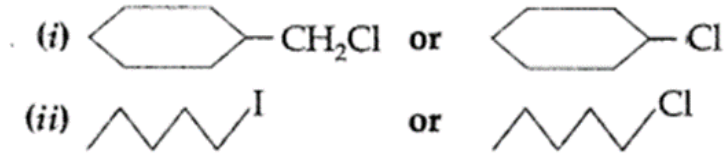
9.What happens when ethyl chloride is treated with aqueous KOH?

10.Which compound in the following pair undergoes faster S_N1 reaction.

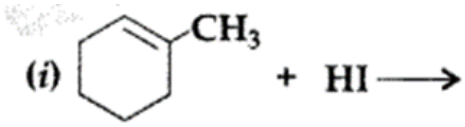


LONG ANSWER QUESTIONS:

1.Which one in the following pairs of substances undergoes S_N2 substitution reaction faster and why?



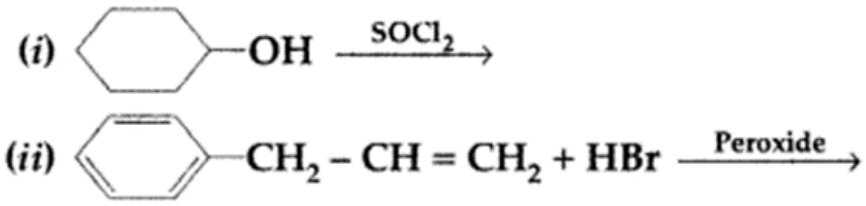
2.Complete the following reaction equations :



(ii) $CH_3CH_2CH = CH_2 + HBr \rightarrow$

3.Haloalkanes undergo nucleophilic substitution whereas haloarenes undergo electrophilic substitution. Explain.

4.Account for the following:

	(i) The C – Cl bond length in chlorobenzene is shorter than that in $CH_3 - Cl$. (ii) Chloroform is stored in closed dark brown bottles. 5.Draw the structure of major monohalo product in each of the following reactions :  6.Differentiate between molality and molarity of a solution. What is the effect of change in temperature of a solution on its molality and molarity? 7. Explain why aquatic species are more comfortable in cold water rather than in warm water? 8. (i) On mixing liquid X and liquid Y, volume of the resulting solution decreases. What type of deviation from Raoult's law is shown by the resulting solution? What change in temperature would you observe after mixing liquids X and Y? (ii) What happens when we place the blood cell in water (hypotonic solution)? Give reason. 9.If N_2 gas is bubbled through water at 293K, how many millimoles of N_2 gas would dissolve in 1 litre of water? Assume that N_2 exerts a partial pressure of 0.987 bar. Given that Henry's law constant for N_2 at 293K is 76.48 k bar. 10.Why the mixture of solution of Chloroform and acetone shows negative deviation from R0ult's law?
BIOLOGY	1.Answer the following Questions a. State two advantages of an apomictic seeds to farmers. b. Explain three different modes of pollination that occur in chasmogamous flower.

	c. Why do most plant produce very large number of male gametes? Provide one reason .What are these gametes called? 2. Explain the process of syngamy and triple fusion in angiosperms. 3. a.Trace the development of the product of syngamy Up to its mature state in dicot plant . b. Draw and label three important parts of a mature dicot embryo. 4. Draw labelled diagram for the following. a. TS of testis b. Sectional view of human ovary c. Fertilized embryo sac of dicot Flower d. A typical anatropous ovule 5. A flower of tomato plant following the process of sexual reproduction produce 240 viable seeds.Answer the following question giving reason. a. What is the minimum number of pollen grain That must have been involved In the pollination of its pistil? b. What would be the minimum number of ovule present in the ovary? c. How many megaspore mother cell were involved? 6. Prepare an investigatory project.
INFORMATICS PRACTICES	**Multiple Choice Questions** **1. To create an empty Series object, you can use :** **(a) pd.Series(empty) (b) pd.Series(np.NaN) (c) pd.Series() (d) all of these** **2. To specify datatype int16 for a Series object, you can write:** **(a) pd.Series(data = array, dtype = int16)** **(b) pd.Series(data = array, dtype = numpy.int16)** **(c) pd.Series(data = array.dtype = pandas.int16)** **(d) all of the above** **3. To get the number of dimensions of a Series object, _____ attribute is displayed.**

	(a) index (b) size (c) itemsize (d) ndim **4. To get the size of the datatype of the items in Series object, you can display _____ attribute.** **(a) index (b) size (c) itemsize (d) ndim** **5. To check if the Series object contains NaN values, _____ attribute is displayed.** **(a) hasnans (b) nbytes (c) ndim (d) dtype** **8. To display third element of a Series object S, you will write _____** **(a) S[:3] (b) S[2] (c) S[3] (d) S[:2]** **9. To display first three elements of a Series object S, you may write _____** **(a) S[:3] (b) S[3] (c) S[3rd] (d) all of these** **10. To display last five rows of a Series object S, you may write _____** **(a) head() (b) head(5) (c) tail() (d) tail(5)** **11. If a Dataframe is created using a 2D dictionary, then the indexes/row labels are formed from _____.** **(a) dictionary's values (b) inner dictionary's keys (c) outer dictionary's keys (d) none of these** **12. If a dataframe is created using a 2D dictionary, then the column labels are formed from _____.** **(a) dictionary's values (b) inner dictionary's keys (c) outer dictionary's keys (d) none of these** **13. The axis 0 identifies a dataframe's _____.**

(a) rows (b) columns (c) values (d) datatype

14. The axis 1 identifies a dataframe's _____.

(a) rows (b) columns (c) values (d) datatype

15. To get the transpose of a dataframe D1, you can write _____

(a) D1.T (b) D1.Transpose (c) D1.Swap (d) All of these

Short & Long Questions

Q1. What is Pandas library of python? What is its significance?

Q2. How is Series data structure different from a dataframe data structure?

Q3. Considered the below given two code fragments. Will they produce the same output? Why/why not?

```
fst=[9,10,11]
ob1=pd.Series(data=fst*2
)
print(ob1)
```

```
fst=
pd.Series(data=[9,10,11])
ob2=pd.Series(data=fst*2
)
print(ob2)
```

Q4. What will be the output of the following program? and specify the reason behind the output produced by the code.

```
import pandas as pd
fst=[9,10,11]
scd=pd.Series(fst)
ob1=pd.Series(data=fst*2)
ob2=pd.Series(data=scd*2)
print(ob1)
print(ob2)
```

	Q5. Given a list namely Area that stores the area of some states in km^2.
	Area=[34567, 890, 450, 67892, 34677, 78902, 256711, 678291, 637632, 25723, 2367, 11789, 345, 256517]
	Write python code to perform the following operations:
	a) Create a Series object namely Ser1 using the list Area given above.
	b) Print the largest three areas from the series Ser1.
	c) Print the smallest three areas from the series Ser1.
	d) Use the required libraries.
	Q6. Given a series object s. Write a program to print only those values from the series object which is greater than 10.
	`import pandas as pd`
	`s = pd.Series([10,2,30,4,50],index=['a','c','b','e','d'])`
	`print (s[s>10])`
	Q7. Consider a Series object vs, created using following statement:
	`vs=pd.Series([11,12,13,14,15,16],index=['a','b','c','d','e','f'])`
	Based on this series object, write statements to do the following:
	(i) Retrieve the third element and print it.
	(ii) Retrieve and print the last two elements.
	(iii) Retrieve and print the first three elements.
	(iv) Retrieve and print alternate elements, starting from index 'b'.

PHYSICAL EDUCATION	**Multiple Choice Question Answers** **Q.1 . In organising an international sports event all committees are formed by:** **(a) Technical Committee (b) Finance Committee (c) Organising Committee (d) Ceremony Committee** **Q.2. From the following which is not the work of Publicity Committee:** **(a) To decide the date and venues of the tournament (b) To coordinate with media (c) To print banners (d) To advertise so that the tournament remains in public eye.** **Q.3. In which type of tournament the team/competitors play at most one fixture per round:** **(a) Staircase (b) Cyclic (c) League (d) Knockout**

	Q.4. After losing a match, a team will be eliminated from the **(a) Knockout tournament (b) League tournament (c) Round Robin tournament (d) None of above** **Q.5. Which of the following tournament helps save time?** **(a) Knockout tournament (b) Combination tournament (c) League tournament (d) Round Robin tournament** **Q.6. Responsibility for Distribution of certificate should be the role of:** **(a) Marketing Committee (b) Technical Committee (c) Logistics Committee (d) Finance Committee** **Q.7. When number of teams is 27, the teams divided in four quarters as:** **(a) 7, 7, 7, 6 (b) 6, 6, 7, 8 (c) 8, 7, 6, 6 (d) 7, 6, 7, 6** **Q.8. The power of two in the knockout fixture is used to** **(a) To calculate the number of byes (b) To decide the number of matches to be played (c) To calculate the number of rounds (d) To calculate number of byes and rounds** **Q.9. While making which fixture the teams/players move in a clockwise Direction** **(a) Knockout fixture (b) Cyclic fixture(c) League fixture (d) None of above** **Short & Long Questions** **Q.1. Give reasons to give a bye/byes in the knockout fixture.** **Q.2. Explain objective of planning related to budget.** **Q.3. What are three objectives of conducting tournaments?** **Q.4. Differentiate between knockout and league tournament.** **Q.5. Draw a knockout fixture of 20 teams providing 4 special seeding in a knockout tournament.** **Q.6. On knock basis, draw a fixture of 27 teams.** **Q.7. Explain the various committees and their responsibilities to conduct sports event.**

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