दशहरा अवकाश कार्य(परियोजना कार्य) सत्र- 2021- 22

कक्षा- बारहवीं

प्रश्न-कविता और कहानी के विषय में बताते हुए इसके आवश्यक तत्वों का उल्लेख करें तथा कुछ रचनाकारों और कहानीकारों के नाम भी लिखिए?

प्रश्न- नए पाठ्यक्रम को ध्यान में रखते हुए प्रथम सत्र हेतु 40 अंक का एक प्रश्न पत्र एवं अंक योजना तैयार कीजिए?(प्रश्न स्वनिर्मित और बहुविकल्पी होना चाहिए मॉडल पेपर नहीं)

प्रश्न- हिंदी साहित्य के आधुनिक काल के विषय में बताते हुए प्रयोगवाद का संक्षिप्त परिचय दीजिए तथा प्रयोगवाद के कुछ कवियों और उनकी रचनाओं का भी उल्लेख करें?

प्रश्न-संपादकीय लेखन, फीचर लेखन और स्तंभ लेखन के बारे में बताते हुए एक संपादकीय लेख एक फीचर तथा एक स्तंभ लेख लिखिए? और समाचार पत्र से काटकर परियोजना कार्य में चिपकाए।

प्रश्न- किसी महत्वपूर्ण समस्या के समाधान हेतु जिला अधिकारी को एक पत्र लिखिए?

प्रश्न-किसी समसामयिकी समस्या पर आधारित एक निबंध लिखिए?

प्रश्न -बाजार दर्शन पाठ को ध्यान में रखते हुए अपने सामान की बिक्री को बढ़ाने के लिए आज किन-किन तरीकों का प्रयोग किया जा रहा है? उदाहरण सहित उनका संक्षिप्त परिचय दीजिए?

दशहरा अवकाश कार्य

(परियोजना कार्य) सत्र-2021-22

कक्षा- ग्यारहवीं

प्रश्न-नाटक किसे कहते हैं? इसके आवश्यक तत्व क्या हैं ?आवश्यक तत्वों का परिचय देते हुए कुछ नाटक लेखकों और उनकी रचनाओं की सूची तैयार करें।

प्रश्न- नए पाठ्यक्रम के आधार पर सत्र प्रथम हेतु 40 अंक का एक प्रश्न पत्र और उसका अंक योजना तैयार कीजिए?(प्रश्न पत्र स्वयं के द्वारा निर्मित होना चाहिए)

प्रश्न -संपादकीय लेखन फीचर लेखन एवं स्तंभ लेखन की परिभाषा लिखते हुए संपादकीय फीचर व स्तंभ लेखन का उदाहरण लिखिए और समाचार पत्र से काटकर अपने परियोजना फ़ाइल में चिपकाए।

प्रश्न-किसी समसामयिकी समस्या पर एक निबंध लिखिए?

प्रश्न -भक्ति काल का संक्षेप में परिचय देते हुए कुछ भक्ति कालीन संत और उनकी रचनाओं के नाम लिखिए?

प्रश्न-किसी महत्वपूर्ण समस्या के समाधान हेतु दैनिक जागरण के समाचार पत्र के संपादक को पत्र लिखिए?

कक्षा आठवीं

दशहरा अवकाश कार्य

1.नियमित रूप से वाचन कार्य करेंगे।
2. प्रतिदिन 10 कठिन शब्द लिखना है।
3. तीन औपचारिक और तीन अनौपचारिक पत्र लिखेंगे।
4. अपनी कल्पना के आधार पर तीन कहानी लिखेंगे।
5. भारत की खोज से 25 अति लघु उत्तरीय प्रश्न बनाएंगे और उसके उत्तर भी लिखें।
6. दशहरा अवकाश और दीपावली पर निबंध लिखिए।
7. दो कविता याद करेंगे और उसे अपनी कॉपी में लिखें।

Holiday Homework

Subject- Maths

Class-IX

1. Make 10 MCQ questions from each chapter of Term-1 syllabus.

2. Think of a condition of data collection in which you will need to construct Histogram. Collect data, make frequency distribution table of the collected data and represent it using Histogram.

Holiday Homework

Subject- Maths

Class-VIII

1. Make a Maths Crossword.

2. Collect data of favourite sport of 20 people from your neighbourhood, make frequency table of the collected data and represent the data using Bar Gra

शरदकालीन गृहकार्य
सत्र-2021-22

कक्षा-10वीं

1. Term-1st के पाठ्यक्रम के आधार पर पाँच प्रश्न-पत्र तैयार करते हुये हल करिए।
2. PT-2 के प्रश्न पत्र को हल करिए।
3. औपचारिक और अनौपचारिक पत्र के एक-एक उदाहरण लिखिए।

शरदकालीन गृहकार्य - सत्र-2021-22.

कक्षा 9वीं

1. PT-2 के प्रश्न-पत्र को हल करिए।
2. Term-1st के पाठ्यक्रम के आधार पर 3 प्रश्न पत्र तैयार करते हुये हल करिये।
3. प्रोजेक्ट कार्य में अलंकार को लिखिए।
4. गद्य-पद्य खण्ड के प्रत्येक पाठ से 10-10 प्रश्नोत्तर बहुविकल्पीय लिखें।

शरदकालीन गृहकार्य – सत्र-2021-22.

कक्षा 6वीं

1. वसंत भाग-1 के पाठ्यक्रम में सम्मिलित पाठ का रिवीज़न करें।
2. लाल राम कथा – प्रत्येक पाठ से 10 प्रश्नोत्तर बहुविकल्पीय लिखें।
3. प्रधानाचार्य को तीन दिन के अवकाश के लिए पत्र लिखें।
4. दशहरा मेलो का वर्णन अपने मित्र से करते हुये संवाद लिखे।

शरदकालीन गृहकार्य – सत्र – 2021-22

कक्षा - 7वीं

1. बसंत भाग-2 के पाठ्यक्रम में सम्मिलित पाठ (Septmb) का रिवीज़न करेंगें। तथा प्रत्येक पाठ से 10 MCQ प्रश्नोत्तर लिखेंगें।
2. पाठ्यक्रम में सम्मिलित ~~प्रत्येक~~ महाभारत के प्रत्येक पाठ से 10 बहुविकल्पीय प्रश्नोत्तर लिखेंगे।
3. दशहरा मेला का वर्णन करते हुये ~~[illegible]~~ अपने मित्र को पत्र लिखें।
4. शरदकालीन छुट्टी में कहीं घूमने जाने को लेकर ~~[illegible]~~ पिता-पुत्र के बीच 60-70 शब्दों में सम्वाद लिखें।

शरदावकाश गृह कार्य - 2021

CLASS - X, H.W (Social Science)
A/B

1- P.T- II- 2021 का प्रश्न पत्र हल करना।

2- TERM-1 पाठ्यक्रम में- भूगोल पाठ का मानचित्र को H.W की कॉपी में अंकित करके चिपकाना।

3- TERM-I, के अनुसार History/Geography, Political Science का M.C.Q को H.W की कॉपी ~~पर~~ पूरा करें।

CLASS - IX (Social Science)
A/B

1- P.T- II- 2021 का प्रश्न पत्र को H.W की कॉपी पर हल करना।

2- TERM- II- के पाठ्यक्रम के आधार पर केवल Geography के पाठ का H.W की कॉपी पर M.C.Q प्रश्नों को पूरा करना

CLASS - VIII - A/B

1- H.Y.E- 2021 के प्रश्न पत्र को H.W की कॉपी पर हल करना।

2- "स्वनिज तथा अन्य संसाधन" के पाठ से- प्रोजेक्ट को पूरा करना। तथा लिखित कार्य भी करना।

सदानन्द
T.G.T (S.St)
के.वि. चेरी-
बाबे सफट।

Holiday Homework

class Xi

Subject-English

Photograph Poem Read and write the following

1- What does the word ‘cardboard’ denote in the poem ? Why has this word been used?

2- What has the camera captured ?

3- What has not changed over the years ? Does this suggest something to you ?

4- The poet’s mother laughed at the snapshot. What did this laugh indicate?

5- What is the meaning of the line ‘Both why with the laboured ease of loss’ ?

6- What does ‘this circumstance’ refer to ?

7- The three stanzas depict three different phases. What are they?

KENDRIYA VIDYALAYA CHERO-SALEMPUR

HOLIDAYS HOMEWORK- AUTUMN BREAK

CLASS – VII **Subject- Science**

Ques 1- Draw neat and clean well labelled diagrams of

a) Human digestive system

b) Arrangement of teeth and different type of teeth

Ques 2- Read chapter 6 – physical and chemical changes & Chapter 7 - soil

Ques 3- Write summary of chapters 5 & 6

KENDRIYA VIDYALAYA CHERO-SALEMPUR

HOLIDAYS HOMEWORK- AUTUMN BREAK

CLASS – XII **Subject- Physics**

Ques 1- Analyse the ac circuit containing following components

a) L & C in the circuit

b) L, C & R in the circuit

Ques 2- Read chapter Electromagnetic induction .

Ques 3- Write summary of Phasor diagram.

KENDRIYA VIDYALAYA CHERO-SALEMPUR

HOLIDAYS HOMEWORK- AUTUMN BREAK

CLASS – XI **Subject- Physics**

Ques 1- Determine the dimensional formula for the quantities

a) Gravitational constant

b) Pressure

c) Torque

Ques 2- Read chapter motion in one dimension.

Ques 3- Write applications of dimensional analysis.

CLASS VIII Science Autumn break Homework

1. Prepare the science project which is given already in class. (Harmful micro organisms)

2. Prepare your learners diary as shared in group.

3. Prepare the project for National Children Science Congress. Project idea is shared in group.

Topic - Ecosystem for sustainable living.

For any help or query, call me or write in group.

Class XI BIOLOGY Autumn break Homework

1. Prepare an investigatory project on classification and economic importance of Algae.

2. Prepare the project for National Children Science Congress(NCSC)

Topic - Ecosystem for sustainable living

3. Complete the notes of chapter 1 2 and 3

Class XII BIOLOGY. Autumn break Homework

1. Prepare an investigatory project on outbreeding devices

2. Prepare a Pedigree chart on colour blindness

3. Complete the notes of all chapters of Term 1 and revise the MCQ Questions shared in group.

4. Revise the assertion and reason based question as shared in group

Sample Paper 1

ANSWER KEYS																			
1	(b)	**7**	(a)	**13**	(b)	**19**	(d)	**25**	(a)	**31**	(c)	**37**	(b)	**43**	(b)	**49**	(c)	**55**	(c)
2	(b)	**8**	(a)	**14**	(b)	**20**	(b)	**26**	(b)	**32**	(d)	**38**	(c)	**44**	(d)	**50**	(d)		
3	(b)	**9**	(b)	**15**	(c)	**21**	(d)	**27**	(a)	**33**	(c)	**39**	(b)	**45**	(a)	**51**	(c)		
4	(a)	**10**	(d)	**16**	(c)	**22**	(a)	**28**	(a)	**34**	(a)	**40**	(d)	**46**	(c)	**52**	(b)		
5	(c)	**11**	(d)	**17**	(d)	**23**	(b)	**29**	(c)	**35**	(b)	**41**	(b)	**47**	(c)	**53**	(a)		
6	(a)	**12**	(d)	**18**	(d)	**24**	(d)	**30**	(a)	**36**	(c)	**42**	(d)	**48**	(a)	**54**	(d)		

SOLUTIONS

1. **(b)** Among the given crystals, only silicon exists as a covalent solid. It has diamond like structure.

2. **(b)** In graphite, the electrons are spread out between the sheets.

3. **(b)** It is the most electronegative element. Hence, it strongly attract the electron pair in a covalent bond.

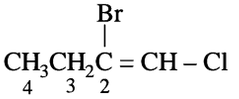
4. **(a)** In crystalline solid, there is perfect arrangement of the constituent particles only at 0 K. As the temperature increases the chance that a lattice site may be unoccupied by an ion increases. As the number of defects increases with temperature, solid changes into liquid.

5. **(c)** For ideal solution,

$\Delta V_{mixing} = 0$ and $\Delta H_{mixing} = 0$.

6. **(a)** Schottky defect is found in ionic solids.

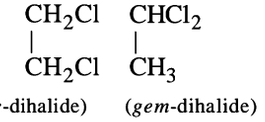
7. **(a)**



2-Bromo-1-chloro but-1-ene

8. **(a)**

9. **(b)**



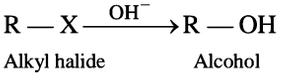
(*vic*-dihalide) (*gem*-dihalide)

10. **(d)**

11. **(d)** Due to inter-molecular hydrogen bonding in alcohols boiling point of alcohols is much higher than ether.

12. **(d)** In graphite, the carbon atoms are arranged in regular hexagons in flat parallel layers.

13. **(b)** The process of conversion of alkyl halides into alcohols involves substitution reaction.



Alkyl halide Alcohol

14. **(b)** An increase in temperature of the solution increases the solubility of a solid solute.
The amount of solute that dissolve depends on what type of solute it is.
For solids and liquid solutes, changes in pressure have practically no effect on solubility.

15. **(c)** Ethyl alcohol has strongest hydrogen bonding due to large electronegativity difference.

16. **(c)** Hybridisation in $PCl_5 = \frac{1}{2}(5+5+0-0) = 5$; sp^3d

17. **(d)**

18. **(d)** Ethylene dichloride can be prepared by adding HCl to ethylene glycol ($CH_2OH.\ CH_2OH$).

19. **(d)** Due to resonance, the electron density increases more at ortho- and para-positions than at meta-positions. Further, the halogen atom because of its – I effect has some tendency to withdraw electrons from the benzene ring. As a result, the ring gets somewhat deactivated as compared to benzene and hence the electrophilic substitution reactions in haloarenes occur slowly and require more drastic conditions as compared to those in benzene.

20. **(b)** On heating, lead nitrate produces brown coloured nitrogen dioxide (NO_2) and lead (II) oxide.

$$2Pb(NO_3)_2 \xrightarrow{\Delta} 4NO_2 + 2PbO + O_2$$

21. **(d)** CCl_4 is non-polar and $CHCl_3$ is polar.

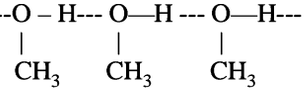
22. **(a)** Collectively these elements are called pnicogens and their compound pniconides.

23. **(b)** Insulin is a biochemically active peptide hormone secreted by pancreas.

24. **(d)** Metallic character increases down the group, Bi is most metallic

25. **(a)** Nitrogen does not show allotropy due to its small size and high electronegativity. The N–N bond is weak due to high inter–electronic repulsions among non-bonding electrons due to the small bond distance. Hence, it does not show allotropy.

26. **(b)** Positive deviations are shown by such solutions in which solvent-solvent and solute-solute interactions are stronger than the solute-solvent interactions. In such solution, the interactions among molecules becomes weaker. Therefore their escaping tendency increases which results in the increase in their partial vapour pressures. In pure methanol, there exists intermolecular H–bonding.



On adding benzene, its molecules come between ethanol molecules, thereby breaking H-bonds which weaken intermolecular forces. This results in increase in vapour pressure.

27. **(a)** Given $P_P = 80$ torr

$P_Q = 60$ torr

$P_{total} = P_P \times x_p + P_q \times x_q$

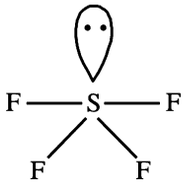
$$= \left[80 \times \frac{3}{5} + 60 \times \frac{2}{5}\right] = 16 \times 3 + 12 \times 2$$

$P_{total} = 48 + 24 = 72$ torr

28. **(a)** Density is directly related to molecular mass. Higher the molecular mass, higher will be the density of the compound. The order of molecular mass is

benzene < chlorobenzene < dichlorobenzene < bromochlorobenzene

29. **(c)** SF_4 has sea-saw shape as shown below:

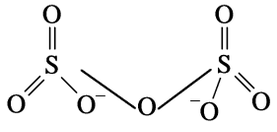


It has trigonal bipyramidal geometry having sp^3d hybridisation.

30. **(a)** The sequence in which the α-amino acids are linked to one another in a protein molecule is called its primary structure.

31. **(c)** For S_N2 reaction polar aprotic solvent is needed.

32. **(d)**



33. **(c)** Glass is amorphous solid.

34. **(a)** The correct order of increasing bond length is

$CH_3F < CH_3Cl < CH_3Br < CH_3I$

35. **(b)** $HF + XeF_6 \longrightarrow XeF_5^+ + HF_2^-$

36. **(c)** If $H_2O = x$ mole

Mass of x mole of $H_2O = 18x$ g

Then urea = x mole

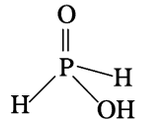
Mass of x mole of $NH_2 - \overset{\overset{O}{\|}}{C} - NH_2 = 60x$ g

Total mass of the solution $= 18x + 60x = 78x$ g

$$\text{Mass \% of urea} = \frac{60x}{78x} \times 100 = 76.92\%$$

37. **(b)** The solubility of alcohols depend on number of C-atoms of alcohols. The solubility of alcohols in water decreases with the increase in number of C-atoms of alcohol. As resulting molecular weight increases, the polar nature of – OH bond decreases and hence strength of hydrogen bond decreases.

38. **(c)** The acids which contain P–H bond have strong reducing properties. Thus, H_3PO_2 is a strong reducing agent due to the presence of two P–H bonds and one – OH group



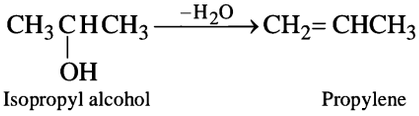
Hypophosphorus acid

39. **(b)** In Na_2O, negative ions form the *ccp* arrangement so that each positive ion is surrounded by 4 negative ions and each negative ion is surrounded by 8 positive ions.

∴ coordination no. of Na^+ is 4 and that of O^{2-} is 8.

40. **(d)** Bismuth forms metallic bonds in elemental state.

41. **(b)** Since the compound is formed by hydration of an alkene, to get the structure of alkene remove a molecule of water from the alcohol.



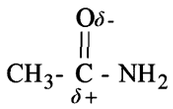
Isopropyl alcohol Propylene

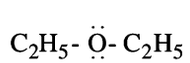
42. **(d)** The two components should be $(CH_3)_3CONa$ + $(CH_3)_3CBr$. However, tert-alkyl halides tend to undergo elimination reaction rather than substitution leading to the formation of an alkene, $Me_2C = CH_2$

43. **(b)** $PCl_3 + H_2O \longrightarrow POCl_3 + 2HCl$

$POCl_3 + 3H_2O \longrightarrow H_3PO_4 + 3HCl$

44. **(d)** Diethyl ether, being a Lewis base, is not attacked by nucleophiles, while all others contain electrophilic carbon, hence attacked by nucleophiles like OH^- ions.





45. **(a)** α-halo carbonyl compounds (such as $C_6H_5COCH_2Cl$) are more reactive because conjugation with carbonyl group is more effective than simple alkene or benzene ring.

46. **(c)** Bond angle of H_2S (92°) < H_2O (104°31). As the electronegativity of the central atom decreases, bond angle decreases. In the present case, S is less electronegative than oxygen. Thus, bond pairs in H_2S are more away from the central atom than in H_2O and thus repulsive forces between bond pairs are smaller, producing smaller bond angle.

47. **(c)** alkyl fluorides are obtained by heating alkyl chloride or bromide in the presence of metallic fluorides like AgF or SbF_3. the reaction is known as Swartz reaction.

$$R - X + AgF/Hg_2F_2 \rightarrow R - F + AgX/Hg_2X_2$$

48. **(a)**

49. **(c)** At higher temperatures, dinitrogen combines with metals to form ionic nitrides.

50. **(d)**

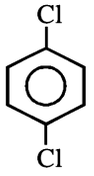
51. **(c)** Histidine is basic amino acid while aspartate is acidic amino acid.

52. **(b)** XeF_6 → (+Excess H_2O) → XeO_3 + HF (X); (XeF_6 + $2H_2O$) → XeO_2F_2 + HF (Y)

Y is not an oxyacid of xenon.

53. **(a)** Boiling point of CH_3I is 42°C which indicates that it is liquid at room temperature. CH_3I is larger molecule so it has stronger vander Waal's force of attraction than others.

54. **(d)** Para-dichlorobenzene has most symmetrical structure than others. It is found as crystalline lattice form, therefore, it has highest melting point (52°C) due to symmetrical structure.



55. **(c)** For the same alkyl group, the boiling points of alkyl halides decrease in the order :

RI > RBr > RCl > RF

This is because with the increase in size and mass of halogen atom, the magnitude of van der Waal's forces increases.

Sample Paper

2

Time : 90 Minutes **Max. Marks : 35**

General Instructions

1. *The Question Paper contains three sections.*
2. *Section A has **25** questions. Attempt any **20** questions.*
3. *Section B has **24** questions. Attempt any **20** questions.*
4. *Section C has **6** questions. Attempt any **5** questions.*
5. *All questions carry equal marks.*
6. *There is no negative marking.*

SECTION-A

*This section consists of 25 multiple choice questions with overall choice to attempt **any 20** questions. In case more than desirable number of questions are attempted, ONLY first 20 will be considered for evaluation.*

1. Reaction of $C_6H_5CH_2Br$ with aqueous sodium hydroxide follows ..... .
(a) S_N1 mechanism
(b) S_N2 mechanism
(c) Any of the above two depending upon the temperature of reaction
(d) Saytzeff rule

2. The α-D glucose and β-D glucose differ from each other due to difference in carbon atom with respect to its
(a) conformation (b) configuration (c) number of OH groups (d) size of hemiacetal ring

3. Which of the following is a primary halide?
(a) Isopropyl iodide (b) Secondary butyl iodide (c) Tertiary butyl bromide (d) Neohexyl chloride

4. In the reaction
$HNO_3 + P_4O_{10} \rightarrow HPO_3 + X$, the product X is
(a) N_2O_5 (b) N_2O_3 (c) NO_2 (d) H_2O

5. Select the one that is likely to show anisotropy
(a) paper (b) wood (c) glass (d) barium chloride

6. Value of Henry's constant K_H _____.
(a) increases with increase in temperature. (b) decreases with increase in temperature.
(c) remains constant. (d) first increases then decreases.

7. Solid CH_4 is
(a) ionic solid (b) covalent solid (c) molecular solid (d) does not exist

8. The order of reactivity of the given haloalkanes towards nucleophile is :
(a) RI > RBr > KCl (b) RCl > RBr > RI (c) RBr > RCl > RI (d) RBr > RI > RCl

9. Denaturation of proteins leads to loss of its biological activity by
(a) Formation of amino acids (b) Loss of primary structure
(c) Loss of both primary and secondary structures (d) Loss of both secondary and tertiary structures

10. Which one of the following is not an allylic halide?
(a) 4-Bromopent-2-ene (b) 3-Bromo-2-methylbut-1-ene
(c) 1-Bromobut-2-ene (d) 4-Bromobut-1-ene

11. The number of P – O – P bonds in cyclic metaphosphoric acid is
(a) zero (b) two (c) three (d) four

12. What is the correct order of reactivity of alcohols in the following reaction?

$$R - OH + HCl \xrightarrow{ZnCl_2} R - Cl + H_2O$$

(a) $1° > 2° > 3°$ (b) $1° < 2° < 3°$ (c) $3° > 2° > 1°$ (d) $3° > 1° > 2°$

13. F-centre is
(a) anion vacancy occupied by unpaired electron. (b) anion vacancy occupied by electron.
(c) cation vacancy occupeid by electron. (d) anion present in interstitial site.

14. Monochlorination of toluene in sunlight followed by hydrolysis with aq. NaOH yields
(a) *o* – cresol (b) *m* – cresol (c) 2, 4 – dihydroxytoluene (d) benzyl alcohol

15. The decrease in the vapour pressure of solvent depends on the
(a) quantity of non-volatile solute present in the solution
(b) nature of non-volatile solute present in the solution
(c) molar mass of non-volatile solute present in the solution
(d) physical state of non-volatile solute present in the solution

16. Which of the following are isomers ?
(a) Methyl alcohol and dimethyl ether (b) Ethyl alcohol and dimethyl ether
(c) Acetone and acetaldehyde (d) Propionic acid and propanone

17. The deep blue colour produced on adding excess of ammonia to copper sulphate is due to presence of
(a) Cu^{2+} (b) $\left[Cu(NH_3)_4(H_2O)_2\right]^{2+}$
(c) $\left[Cu(NH_3)_6\right]^{2+}$ (d) $\left[Cu(NH_3)_2(H_2O)_4\right]^{2+}$

18. Chromosomes are made from
(a) proteins (b) nucleic acids
(c) proteins and nucleic acids (d) carbohydrates and nucleic acids

19. Ethylidene chloride is a/an ..... .
(a) *vic*-dihalide (b) *gem*-dihalide (c) allylic halide (d) vinylic halide

20. The correct kinetic rate equation for the addition- elimination mechanism of nucleophilic aromatic substitution
(a) rate = k [aryl halide] [nucleophile] (b) rate = k [aryl halide]
(c) rate = k [aryl halide] [nucleophile]^2 (d) rate = k [nucleophile]

21. The correct order of increasing oxidising power is
(a) $F_2 > Br_2 > Cl_2 > I_2$ (b) $F_2 < Cl_2 < Br_2 < I_2$ (c) $Cl_2 > Br_2 > F_2 > I_2$ (d) $I_2 < Br_2 < Cl_2 < F_2$

22. An unripe mango placed in a concentrated salt solution to prepare pickle shrivels because ..... .
(a) it gains water due to osmosis (b) it loses water due to reverse osmosis
(c) it gains water due to reverse osmosis (d) it loses water due to osmosis

23. Which one is most stable to heat –
(a) HClO (b) $HClO_2$ (c) $HClO_3$ (d) $HClO_4$

24. Glucose on prolonged heating with HI gives :
(a) *n*-Hexane (b) 1- Hexene (c) Hexanoic acid (d) 6-iodohexanal

25. The correct decreasing order of basic strength is:
(a) $AsH_3 > SbH_3 > PH_3 > NH_3$ (b) $SbH_3 > AsH_3 > PH_3 > NH_3$
(c) $NH_3 > PH_3 > AsH_3 > SbH_3$ (d) $PH_3 > AsH_3 > SbH_3 > NH_3$

SECTION-B

*This section consists of 24 multiple choice questions with overall choice to attempt **any 20** questions. In case more than desirable number of questions are attempted, ONLY first 20 will be considered for evaluation.*

26. In nitrogen family, the H-M-H bond angle in the hydrides gradually becomes closer to 90° on going from N to Sb. This shows that gradually
(a) The basic strength of the hydrides increases
(b) Almost pure *p*-orbitals are used for M-H bonding
(c) The bond energies of M-H bonds increase
(d) The bond pairs of electrons become nearer to the central atom

27. A solution of sucrose (molar mass = 342 g mol^{-1}) has been prepared by dissolving 68.5 g of sucrose in 1000 g of water. The freezing point of the solution obtained will be
(K_f for water = 1.86 K kg mol^{-1}).
(a) – 0.372°C (b) – 0.520°C (d) + 0.372°C (d) – 0.570°C

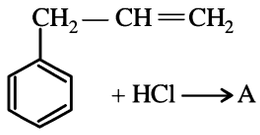
28. If the elevation in boiling point of a solution of 10 gm of solute (mol. wt. = 100) in 100 gm of water is ΔT_b, the ebullioscopic constant of water is
(a) 10 (b) $10\,\Delta T_b$ (c) ΔT_b (d) $\frac{\Delta T_b}{10}$

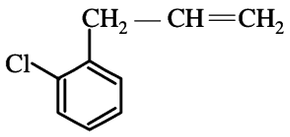
29. Aryl halides can not be prepared by the reaction of aryl alcohols with PCl_3, PCl_5 or $SOCl_2$ because
(a) phenols are highly stable compounds.
(b) carbon-oxygen bond in phenols has a partial double bond character.
(c) carbon-oxygen bond is highly polar
(d) all of these

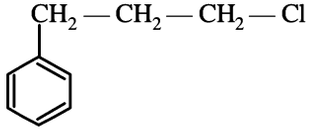
30. In the preparation of HNO_3, we get NO gas by catalytic oxidation of ammonia. The moles of NO produced by the oxidation of two moles of NH_3 will be ..... .
(a) 2 (b) 3 (c) 4 (d) 6

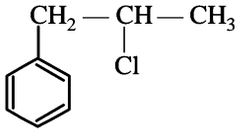
31. A mixture of two amino acids having pI 9.60 and 5.40 can be separated
(a) by adjusting the pH of the solution at 9.60 (b) by adjusting the pH of the solution at 4.20
(c) by adjusting the pH of the solution at 7.0 (d) by adjusting the pH of the solution at 7.5.

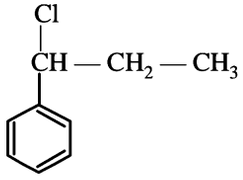
32. What is 'A' in the following reaction?



(a) 

(b) 

(c) 

(d) 

33. Which of the following statements is wrong?
(a) Single N — N bond is stronger than the single P — P bond.
(b) PH_3 can act as a ligand in the formation of coordination compounds with transition elements.
(c) NO_2 is paramagnetic in nature.
(d) Covalency of nitrogen in N_2O_3 is four.

34. An element (atomic mass 100 g/mol) having *bcc* structure has unit cell edge 400 pm. The density of element is
(a) 2.144 g/cm^3 (b) 7.289 g/cm^3 (c) 5.188 g/cm^3 (d) 10.376 g/cm^3

35. Aryl halides can not be prepared by the reaction of aryl alcohols with PCl_3, PCl_5 or $SOCl_2$ because
(a) phenols are highly stable compounds.
(b) carbon-oxygen bond in phenols has a partial double bond character
(c) carbon-oxygen bond is highly polar
(d) all of these.

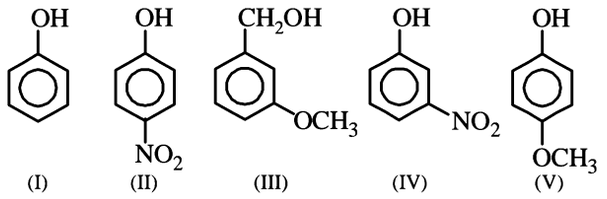
36. The products of the chemical reaction between $Na_2S_2O_3$, Cl_2 and H_2O are

(a) S, HCl, Na_2SO_4 (b) S, HCl, Na_2S (c) S, HCl, Na_2SO_3 (d) S, $NaClO_3$

37. 1 M, 2.5 litre NaOH solution is mixed with another 0.5 M, 3 litre NaOH solution. Then find out the molarity of resultant solution

(a) 0.80 M (b) 1.0 M (c) 0.73 M (d) 0.50 M

38. Mark the correct order of decreasing acid strength of the following compounds.



(I) (II) (III) (IV) (V)

(a) V > IV > II > I > III (b) II > IV > I > III > V (c) IV > V > III > II > I (d) V > IV > III > II > I

39. Oxidation states of P in $H_4P_2O_5$, $H_4P_2O_6$, and $H_4P_2O_7$, are respectively:

(a) +3, +5, +4 (b) +5, +3, +4 (c) +5, +4, +3 (d) +3, +4, +5

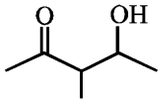
40. If z is the number of atoms in the unit cell that represents the closest packing sequence ..... ABC ABC ....., the number of tetrahedral voids in the unit cell is equal to :

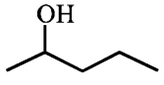
(a) z (b) $2z$ (c) $z/2$ (d) $z/4$

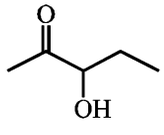
41. Which of the following pairs of ions are isoelectronic and isostructural?

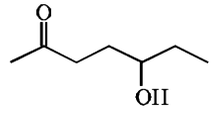
(a) CO_3^{2-}, NO_3^- (b) ClO_3^-, CO_3^{2-} (c) SO_3^{2-}, NO_3^- (d) ClO_3^-, SO_3^{2-}

42. Which one of the following will most readily be dehydrated in acidic conditions ?

(a) 

(b) 

(c) 

(d) 

43. Which of the following statements are correct ?

(i) In phenols, the —OH group is attached to sp^2 hybridised carbon of an aromatic ring

(ii) The carbon – oxygen bond length (136 pm) in phenol is slightly more than that in methanol

(iii) Partial double bond character is due to the conjugation of unshared electron pair of oxygen with the aromatic ring.

(iv) Phenol has sp^2 hybridised state of carbon to which oxygen is attached.

(a) (i), (ii) and (v) (b) (i), (ii) and (iii) (c) (i), (iii) and (iv) (d) (i) and (iv)

44. How many bridging oxygen atoms are present in P_4O_{10}?

(a) 5 (b) 6 (c) 4 (d) 2

Given below are two statements labelled as Assertion (A) and Reason (R). Select the most appropriate answer from the options 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.

---

45. **Assertion :** In the reaction between RCH_2OH & PCC, an Aldehyde is obtained.
Reason : PCC involves the change in oxidation state of chromium from + 6 to + 3.

46. **Assertion :** Anti Markovnikov's rule is not applicable for HF, HCl or HI except HBr.
Reason : Addition of HCl, HF or HI to alkenes forms only Markovnikov's products.

47. **Assertion :** Iodine is more soluble in water than in carbon tetrachloride.
Reason : Iodine is a non-polar compound.

48. **Assertion :** tert-butyl bromide undergoes Wurtz reaction to give 2, 2, 3, 3-tetramethylbutane.
Reason : In Wurtz reaction, alkyl halides react with sodium in dry ether to give hydrocarbon containing double the number of carbon atoms present in the halide.

49. **Assertion :** One molal aqueous solution of glucose contains 180 g of glucose in 1 kg of water.
Reason : Solution containing one mole of solute in 1000 g solvent is called one molal solution.

SECTION-C

*This section consists of 6 multiple choice questions with an overall choice to attempt **any 5**. In case more than desirable number of questions are attempted, ONLY first 5 will be considered for evaluation.*

50. Match the columns.

	Column-I (Oxyacid)		**Column-II (Materials for preparation)**
(A)	H_3PO_2	(p)	Red P + alkali
(B)	H_3PO_3	(q)	$P_4O_{10} + H_2O$
(C)	H_3PO_4	(r)	$P_2O_3 + H_2O$
(D)	$H_4P_2O_6$	(s)	White P + alkali

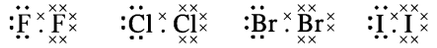
(a) (A) – (s), (B) – (r), (C) – (q), (D) – (p) (b) (A) – (p), (B) – (r), (C) – (q), (D) – (s)
(c) (A) – (s), (B) – (r), (C) – (p), (D) – (q) (d) (A) – (q), (B) – (r), (C) – (p), (D) – (s)

51. Correctly analogy is
(a) Soda water: gas in liquid :: Sugar solution: solid in liquid.
(b) German silver: solid in solid :: Sugar solution: liquid in solid.
(c) Air: gas in gas : : Soda water : liquid in gas
(d) Sugar solution : liquid in solid : : Air : gas in gas

52. Find the incorrect analogy
(a) Glucose : 6 Carbon : : Fructose : 5 Carbon
(b) Glucose : 4 Chiral centre : : Fructose : 4 Chiral centre
(c) Glucose : Polyhydroxy Aldehyde : : Fructose : Polyhydroxy ketone
(d) Glucose : Monosaccharide : : Fructose : Monosaccharide

Case Study : *Read the following paragraph and answers the questions.*

The discovery and preparation of several of the interhalogen compounds followed shortly after the discovery of the elements themselves. Since the halogens are all relatively strongly electronegative elements, each lacking one electron to complete its outer shell, they form diatomic molecules with a shared electron-pair bond between them:



In a very similar manner, interhalogen molecules are formed, the simplest type being represented by CIF, BrCl, 1Br, etc., whose physical properties are intermediate between those of the two elements involved. However, these properties are not necessarily the average of those of the two parent elements.

Of the six possible uni-univalent halogen halides, five, all except iodine fluoride, are known to exist; the latter is probably too unstable, since in the known iodine-fluorine compounds, iodine always has a valence greater than 1.

Considerably more interest from a structural standpoint are the interhalogen compounds in which one of the halogens has a valence greater than 1. Three such series exist: AB_3, AB_5 and AB_7. No compounds are known where an even number of atoms of one halogen combine with an odd number of another; such a molecule would have an unpaired electron.

53. Interhalogen compounds are more reactive than the individual halogen because
(a) two halogens are present in place of one
(b) they are more ionic
(c) their bond energy is less than the bond energy of the halogen molecule
(d) they carry more energy

54. Which of the following statements are correct?

(i) Among halogens, radius ratio between iodine and fluorine is maximum.

(ii) Leaving F—F bond, all halogens have weaker X—X bond than X—X′ bond in interhalogens.

(iii) Among interhalogen compounds maximum number of atoms are present in iodine fluoride.

(iv) Interhalogen compounds are more reactive than halogen compounds.

(a) (i) and (ii) (b) (i), (ii) and (iii)

(c) (ii) and (iii) (d) (i), (iii) and (iv)

55. Which of the following is not the characteristic of interhalogen compounds ?

(a) They are more reactive than halogens

(b) They are quite unstable but none of them is explosive

(c) They are covalent in nature

(d) They have low boiling points and are highly volatile.

HOLIDAY HOMEWORK

CLASS XII

SUBJECT-COMPUTER SCIENCE

In an online lottery system, names having exactly 5 characters are to be displayed. Piyush has been asked to complete this task. He has created a function FindNames() in python which read contents from a text file LOTTERY.TXT, which contains names of participants, and displays those names, which are having exactly 5 characters. He got confused with few statements and left it blank. Help him complete the code.

```
def FindNames():
 c=0
 file=open('LOTTERY.TXT', '_____') #Statement-1
 line = file._____ #Statement-2
 word = _____ #Statement-3
 for c in word:
 if _____: #Statement-4
 print(c)
 _____ #Statement-5
FindNames()
```

(i) Write mode of opening the file in statement-1?

(a) A

(b) Ab

(c) W

(d) r

(ii) Fill in the blank in statement-2 to read the data from the file.

(a) File.Read()

(b) file.read()

(c) read.lines( )

(d) readlines( )

(iii) Fill in the blank in statement-3 to read data word by word.

(a) Line.Split()

(b) Line.split()

(c) line.split()

(d) split.word()

(iv) Fill in the blank in statement-4, which display the word having exactly 5 characters.

(a) len(c) ==5

(b) len(c)<5

(c) len ( )= =5

(d) len ( )==6

(v) Fill in the blank in Statement-5 to close the file.

(a) file.close()

(b) File.Close()

(c) Close()

(d) end()

37. Snigdha 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). She has written the following code in python. As a programmer, you have to help her to successfully execute the program.

```
import _____ # Statement-1
def AddNewRec(Country,Capital): # Fn. to add a new record in CSV file
 f=open("CAPITAL.CSV",_____) # Statement-2
 fwriter=csv.writer(f)
 fwriter.writerow([Country,Capital])
 _____ # Statement-3
def ShowRec(): # Fn. to display all records from CSV file
 with open("CAPITAL.CSV","r") as NF:
 NewReader=csv._____(NF) # Statement-4
 for rec in NewReader:
 print(rec[0], "#", rec[1])
AddNewRec("INDIA", "NEW DELHI")
AddNewRec("CHINA", "BEIJING")
```

ShowRec() # Statement-5

(i) Which module should be imported in Statement-1.

(a) pickle

(b) csv

(c) file

(d) text

(ii) Which file mode to be passed to add new record in Statement-2.

(a) w+

(b) w

(c) wb

(d) a

(iii) What should be written in Statement-3 to close the file?

(a) close()

(b) fwriter.close()

(c) f.close()

(d) csv.close()

(iv) Which function to be used in Statement-4 to read the data from a csv file.

(a) read()

(b) readline()

(c) readlines()

(d) reader()

(v) The output after executing Statement-5 will be –

(a) (“INDIA”, “NEW DELHI”)

(“CHINA”, “BEIJING”)

(b) INDIA NEW DELHI

CHINA BEIJING

(c) INDIA, NEW DELHI

CHINA, BEIJING

(d) INDIA # NEW DELHI

CHINA # BEIJING

HOLIDAY HOMEWORK

CLASS XI

SUBJECT-COMPUTER SCIENCE

6.1

Progress in Python

Python Interactive Mo

Start Python ***Anaconda Navigator*** *and then* ***Spyder IDE****. Or you may also use any other IDE of your choice.*

On the IPython console perform this session

Python prompt as calculator

1. *In front of Python prompt, i.e.,* **In[ ]** prompt, *type following expressions one by one, by pressing return key after every expression, e.g.,*

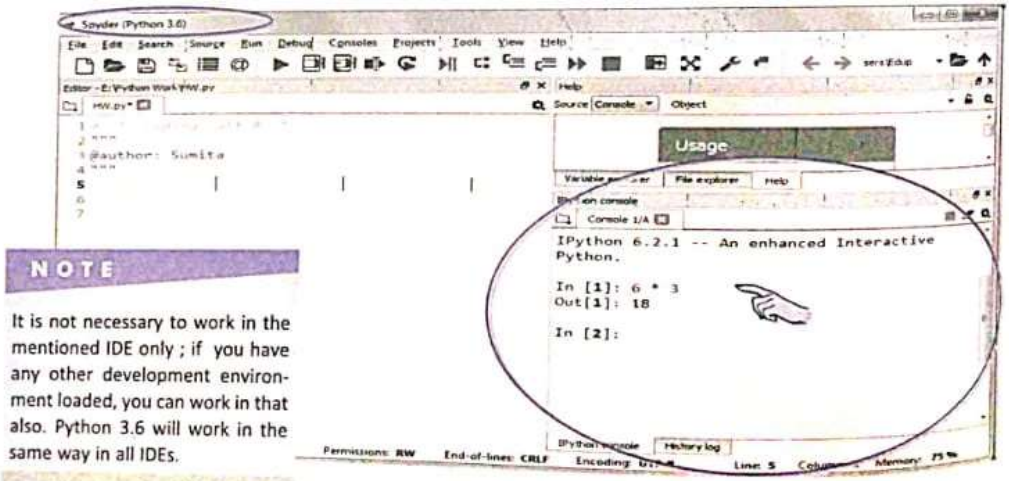
```
In[1] : 6 * 3
```

It will show output lines starting with **Out[ ]** :, *e.g.* :

```
Out[2] : 18
```

NOTE

In [ ] : stands for input comma and Out [ ] : stands for output here Python shows the output.



NOTE

It is not necessary to work in the mentioned IDE only ; if you have any other development environment loaded, you can work in that also. Python 3.6 will work in the same way in all IDEs.

Don't worry if all the results are not clear to you right now. Just note down any questions arising. All these doubts will be solved slowly when you learn the Python data handling concepts.

NOTE

- % gives remainder, *e.g.*, 7%2 will give 1
- ** means raised to powe *e.g.*, 2^3 is 2 ** 3
- != means Not equal to

[Carefully notice, when you assign an expression to a name *e.g.*, **P = 2 + 3** in front of prompt In[ ]:, does Python display anything ? When does Python display and when not ?]

	Expression	Result (what Python returns)
1.	6 * 3	
2.	3 ** 3	
3	6 + 2 * 4	
4.	(6 + 2) * 4	
5.	5 - 3 - 3	
6.	k = 5 - (3 - 3)	
7.	9.0 ** 0.5	
8.	(5 + 3.1) *5	
9.	S = 5.0 –(3 – 3.0)	
10.	S	
11.	x = 12.0/4	
12.	x	
13.	7 - -7 - -7	
14.	8/6	

	Expression	Result (what Python returns)
15.	a = 8 % 3	
16.	a	
17.	3 ** 2 ** 0	
18.	(3 ** 2) ** 0	
19.	a + 5	
20.	3.0 * 0.5	
21.	9.0 % 3	
22.	- 9.0 % 4	
23.	6.2 % 4	
24.	2 < 5	
25.	3 < 5 and 5 < 3	
26.	4 < 3 or 6 > 7	
27.	3 <= 3	
28.	4 != 5	