

Pre-GUJCET Exam : 2018

Test Booklet No.	0	0	1
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This booklet contains pages.

DO NOT open this Test Booklet until you are asked to do so.

Important instructions:

1. The **CHEMISTRY** test is consist of **40** questions. Each question carries 1 mark .For each correct response the candidate will get **1** mark. For each incorrect response, $\frac{1}{4}$ mark will be deducted. The maximum marks are **40**.
2. The Test is of **1 hour** duration.
3. Use Black Ball point Pen only for writing on OMR answer sheet marking ● responses.
4. Rough work is to be done on the space provided for purpose in the Test booklet only.
5. **On completion of the test, the candidate must handover the Answer sheet to the invigilator in the Room/Hall . The candidates are allowed to take away this test booklet with them.**
6. The CODE for this booklet is **001**. Make sure that the **CODE** printed on the answer sheet is the same as that on this booklet. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of both the test booklet and answer sheet.
7. The candidate should ensure that the answer sheet is nit folded. Do not make any stray marks on the answer sheet.
8. Do not write your seat No. anywhere else, except in the specified space in the test booklet/answer sheet.
9. Use of white fluid for correction is not permission on the answer sheet.
10. Each candidate must show , on demand his/her admission card to the invigilator
11. No candidate, without special permission of the superintendent or in invigilator, should leave his/her seat.
12. Use of manual calculator is permissible.
13. The candidate should not leave the examination Hall without handing over their answer sheet to the invigilator on duty and must sign the attendance sheet be deemed not to have handed over the answer sheet and dealt with as a unfair case.
14. The candidates are governed by all rules and regulations of the board with regard to their conduct in the regulation of the board .
15. No part of the Test Booklet and answer sheet shall be detached under any circumstance .
16. The candidates will write the correct Test Booklet code as given in the Test Booklet/Answer sheet in the attendance sheet.

Candidate's Name :

Exam. Seat No. (in figures) (in words)

Name of Exam. Centre :

Candidate's Sign..... Block Supt. Sign.....

- Which of the following principle is involved in chromatography method ?
 (a) Precipitaion (b) Hydrolysis (c) Decomposition (d) Adsorption
- The density of solid argon ($\text{Ar} = 40 \text{ g / mol}$) is 1.68 g/ml at 40 K . If the argon atom is assumed to be a sphere of radius $1.50 \times 10^{-8} \text{ cm}$, what percent of solid argon is apparently empty space ?
 (a) 35.64 (b) 64.36 (c) 74 (d) none
- Which of the following unit is correctly matched ?
 (a) SI units of conductivity is Sm^{-1} (b) SI unit of molar conductivity is $\text{Scm}^2 \text{mol}^{-1}$
 (c) SI unit of conductance is S^{-1} (d) All of these
- E^0 for $\text{Cl}_{2(g)} + 2e^- \rightarrow 2\text{Cl}_{(aq)}^-$ is 1.36 v . Then value of E^0 for $\text{Cl}_{(g)}^- \rightarrow \frac{1}{2} \text{Cl}_{2(g)} + e^-$ is
 (a) 1.36 v (b) -1.36 v (c) -0.68 v (d) 0.68 v
- The solubility of a specific non-volatile salt is 4 g in 100 g of water at 25° . if 2.0 g , 4.0 g and 6.0 g of the salt added to 100 g of water at 25° C in system X, y and Z respectively. The vapor pressure would be in the order
 (a) $X < Y < Z$ (b) $X > Y > Z$ (c) $Z > X = Y$ (d) $X > Y = Z$
- In a mixture of A and B component shows positive deviation when
 (a) A – B interaction is stronger then A – A and B - B
 (b) A –B interaction is weaker then A – A and B - B
 (c) $\Delta v_{\text{mix}} < 0, \Delta s_{\text{mix}} > 0$ (d) $\Delta v_{\text{mix}} = 0, \Delta s_{\text{mix}} > 0$

(Space for Rough Work)

7. The rate constant of reaction depends on

- (a) temperature (b) pressure (c) extent of reaction (d) initial concentration of reactant

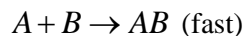
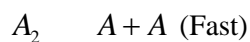
8. $A_2 + B_2 \rightarrow 2AB$; rate of Reaction = $k[A_2]^a[B_2]^b$

Initial $[A_2]$	Initial $[B_2]$	Rate of reaction $M.s^{-1}$
0.2	0.2	0.04
0.1	0.4	0.04
0.2	0.4	0.08

Order of the reaction with respect to A_2 and B_2 are

- (a) $a = 1, b = 1$ (b) $a = 2, b = 0$ (c) $a = 2, b = 1$ (d) None

9. A hypothetical reaction $A_2 + B_2 \rightarrow 2AB$ follows the mechanism as given below



The order of the over all reaction is

- (a) 2 (b) 1 (c) $\frac{3}{2}$ (d) 0

(Space for Rough Work)

10. Tetrahedral void is made up by _____ and _____ lattice point in ccp arrangement
- (a) 3 corner and 1 face centre atom (b) 3 face centre and 1 corner atom
(c) 3 face centre and 1 body centre (d) can't predict
11. In ccp arrangement distance between two closet octahedral void is
- (a) $\frac{a}{\sqrt{2}}$ (b) $\sqrt{3}a$ (c) $\sqrt{2}a$ (d) None
12. Which of the following is not included in transition series.
- (a) Ag (b) Zn (c) Cd (d) "b" and "c" both
13. Which of the following solution having highest vapor pressure.
- (a) 1 m NaCl (b) 1 M CH_3COOH (c) 1 M NaCl (d) 1m CH_3COOH
14. For the coagulation of gold sol, NaCl, $MgCl_2$, $AlCl_3$ are used. Then order of precipitation value is
- (a) $AlCl_3 > MgCl_2 > NaCl$ (b) $NaCl > MgCl_2 > AlCl_3$
(c) $NaCl = MgCl_2 = AlCl_3$ (d) None of the above
15. What is magnetic moment of Co^{+3} ?
- (a) 3.87 BM (b) 4.90 BM (c) 2.83 BM (d) 5.92 BM.

(Space for Rough Work)

16. Give oxidation state of Cr in $K_2Cr_2O_7$.
- (a) +12 (b) +4 (c) +6 (d) +7
17. What is the proportion of metal in pyrophric misch metal ?
- (a) 50% Ce, 40 % La, 7% Fe, 3% other metals (b) 50% Ce, 40 % La, 5% Fe, 5% other metals
(c) 50% Ce, 40 % Fe, 7% La, 3% other metals (d) 50% Ce, 40 % Fe, 7% Lu, 3% other metals
18. Which of the following is not a tridentate Ligand ?
- (a) PO_4^{-3} (b) AsO_4^{-3} (c) N^{-3} (d) BO_3^{-3}
19. Which pair possesses linkage isomerism ?
- (a) $[Cu(NH_3)_4][PtCl_4]$ and $[Pt(NH_3)_4][CuCl_4]$ (b) $[Pd(Pph_3)_2(NCS)_2]$ and $[Pd(Pph_3)_2(SCN)_2]$
(c) $[Co(NH_3)_5NO_3]SO_4$ and $[Co(NH_3)_5SO_4]NO_3$ (d) $[PtCl_2(NH_3)_4Br_2]$ and $[PtBr_2(NH_3)_4]Cl_2$
20. Which complex is not possess tetrahedral structure ?
- (a) $[FeCl_4]^{-2}$ (b) $[NiCl_4]^{-2}$ (c) $[PtCl_4]^{-2}$ (d) $[CoCl_4]^{-2}$
21. Hoffmann reaction is _____ type of reaction.
- (a) Substitution (b) rearrangement (c) addition (d) decomposition
22. In which of the following reactions $-C-\text{group}$ of aldehyde and ketone can not be converted into methylene group
- (a) Tollen's Test & Fehling' test (b) Wolf Kishner
(c) Clemmensen (d) Reduction with HI & Red P

(Space for Rough Work)

23. Which of the following reaction is disproportionation ?
- (a) Cross - aldol condensation (b) Iodoform
(c) Cannizzaro reaction (d) Carbyl amine reaction
24. Which of the following carbocation is most unstable?
- (a) Benzyl carbocation (b) allyl carbocation (c) Phenyl carbocation (d) ethyl carbocation
25. Which of the following is most reactive towards nucleophilic substitution reaction ?
- (a) p- methyl Chloro benzene (b) o,p-di nitro Chloro benzene
(c) p-nitro Chloro benzene (d) Chloro benzene
26. Arrange the following sets of compound in order of their boiling points
- (a) pentan - 1 - ol > butan - 1 - ol > Ethanol > propan - 1- ol > Butan - 2 - ol > methanol
(b) ethanol > pentan - 1 - ol > Propan - 1 - ol > Methanol > Butan - 2 - ol > Butan - 1 - ol
(c) Butan - 1 - ol > Ethanol > pentan - 1 ol > propan - 1- ol > Pentan -1 - ol > methanol
(d) pentan - 1 - ol > butan - 1 - ol > butan - 2 - ol > propan - 1- ol > Ethanol > methanol
27. Which type of mechanism is observed in Azo coupling reaction?
- (a) Nucleophilic substitution (b) Electrophilic addition
(c) Free radical addition (d) Electrophilic substitution
28. Which of the following is non reducing sugar ?
- (a) maltose (b) lactose (c) sucrose (d) Glucose

(Space for Rough Work)

29. Denaturation of proteins does not occur by _____ factors.
- (a) changes in pH (b) Detergents (c) increase in temperature (d) decrease in Concentration
30. Which of the following vitamins are formed by micro organism in intestine?
- (a) Vitamin D (b) Vitamin A (c) Vitamin K & B complex (d) Vitamin C
31. Predict the product of following reaction.
- $$CH_3 - CH_2 - CH_2 - O - CH_3 + HBr \rightarrow$$
- (a) $CH_3 - CH_2 - CH_2 - OH + CH_3 - Br$ (b) $CH_3 - CH_2 - CH_2 - Br + CH_3 - O - H$
- (c) $CH_3 - CH_2 - CH_2 - Br + CH_3 - Br$ (d) None of these
32. In which of the following reactions cleavage of carbon-oxygen (C - O) bond in alcohols is not possible ?
- (a) Rxn with hydrogen halides and PCl_3 (b) Dehydration of alcohols
- (c) Oxidation of alcohols (d) esterification
33. Which of the following is least basic ?
- (a) p-methoxy Aniline (b) p-methyl Aniline (c) Aniline (d) p-Amino Benzoic acid
34. In one sample of polymes 30% molecular have 20,000 molecularmass and 40% molecules have 30,000 molecular mass and other have 60,000 molecular mass than what is the value of \overline{Mn} ?
- (a) 3,60,000 (b) 36,000 (c) 46,000 (d) 50,000

(Space for Rough Work)

35. How many numbers of chiral carbon is there in α -D-(+) glucose ?
- (a) 3 (b) 4 (c) 5 (d) 2
36. Which is correct option.
- (a) some drugs do not bind to the active site of enzyme but bind to a different site this site is called receptors
- (b) Drugs stops the substrate from binding with active site of enzyme these drugs are called competitive inhibitors
- (c) The chemical transmitting substance produced in endocrine glands present in our body are called chemical messengers.
- (d) None of these
37. Which of the following factors does not affect the colours produced by tyndall effect ?
- (a) Particle size (b) Position of observer (c) Light source (d) None of these
38. Which of the following is strongest acid?
- (a) m- Methyl Benzoic acid (b) m- nitro Benzoic acid
- (c) p- Methyl Benzoic acid (d) p- nitro Benzoic acid
39. Which of the following is tribasic acid ?
- (a) H_4PO_2 (b) H_3PO_4 (c) $H_4P_2O_7$ (d) H_3PO_3
40. Shape of XX'_5 type interhalogen compound is
- (a) pentagonal bi pyramidal (b) square pyramidal
- (c) angular T shape (d) Trigonal bipyramidal

(Space for Rough Work)