| Sr No. | MSc Chemistry |
|---|---|
| 1 | Find the next term in the series: BMO, EOQ, HQS, ? |
| Alt1 | KSU |
| Alt2 | LMN |
| Alt3 | SOV |
| Alt4 | SOW |

| | |
|---|---|
| 2 | Choose word from the given options which bears the same relationship to the third word, as the first two bears: Misogamy: Marriage:: Misogyny:? |
| Alt1 | Children |
| Alt2 | Husband |
| Alt3 | Relations |
| Alt4 | Women |

| | |
|---|---|
| 3 | Select the lettered pair that has the same relationship as the original pair of words: Indolence : Beaver |
| Alt1 | Elegance: Peacock |
| Alt2 | Ferocity: Lamb |
| Alt3 | Passivity: Cow |
| Alt4 | Joviality: Hyena |

| | |
|---|---|
| 4 | Select the lettered pair that has the same relationship as the original pair of words: Man : Humanity |
| Alt1 | Frame: Picture |
| Alt2 | Scholar: Books |
| Alt3 | Flowers: Fragrance |
| Alt4 | Drop: Ocean |

| | |
|---|---|
| 5 | Choose the set that has the same relationship as in the original: Horse : Foal : Mare |
| Alt1 | Sheep: lamb: Goat |
| Alt2 | Lion: Cub: Den |
| Alt3 | Man: Child: Woman |
| Alt4 | Cat: Kitten: Puppy |

| | |
|---|---|
| 6 | Spot the defective segment from the following: |
| Alt1 | I didn't expect |
| Alt2 | this kind of treatment |
| Alt3 | from your hands |
| Alt4 | this morning |

| | |
|---|---|
| 7 | Many rural children go to school ---------. |
| Alt1 | by foot |
| Alt2 | by walk |
| Alt3 | on foot |
| Alt4 | on their feet |

aglasem.com

| | |
|---|---|
| 8 | ------- is facing the threat of extinction. |
| Alt1 | Tigers |
| Alt2 | Tiger |
| Alt3 | The tiger |
| Alt4 | A tiger |

| | |
|---|---|
| 9 | Choose the option closest in meaning to the given word:<br>TERSE |
| Alt1 | concise |
| Alt2 | curt |
| Alt3 | rude |
| Alt4 | poetic |

| | |
|---|---|
| 10 | Choose the antonymous option you consider the best:<br>RETICENT |
| Alt1 | communicative |
| Alt2 | clamorous |
| Alt3 | reserved |
| Alt4 | dormant |

| | |
|---|---|
| 11 | In each of the following questions some statements are followed by two conclusions (i) and (ii). Read the statements carefully and then decide which of the conclsions follow beyond a reasonable doubt. Mark your answer as<br>Statement: I am a Kashmiri Pandit and feel proud that Indira Gandhi belonged to the same community<br>Conclusions: (i) Indira Gandhi is proud of being a Kashmiri Pandit<br>(ii) All Kashmiri Pandits feel proud of Indira Gandhi |
| Alt1 | If only conclusion (i) follows |
| Alt2 | If only conclusion (ii) follows |
| Alt3 | If neither conclusion (i) nor (ii) follows |
| Alt4 | If both the conclusions follow |

| | |
|---|---|
| 12 | What value should come in place of question mark (?) in the following number series?<br>48, ?, 94, 123, 156, 193 |
| Alt1 | 74 |
| Alt2 | 65 |
| Alt3 | 69 |
| Alt4 | 77 |

| | |
|---|---|
| 13 | If in a certain language CARROM is coded as BZQQNL, which word will be coded as<br>HOUSE ? |
| Alt1 | IPVTF |
| Alt2 | GNTRD |
| Alt3 | INVRF |

aglasem.com

| | |
|---|---|
| Alt4 | GPTID |

| | |
|---|---|
| 14 | Teeth : Chew in the same way as |
| Alt1 | Mind : Think |
| Alt2 | Food : Taste |
| Alt3 | Sweater : Heat |
| Alt4 | Eyes : Flicker |

| | |
|---|---|
| 15 | The following information is given: Eight persons P, Q, R, S, T, U, V and W are sitting around a rectangular table in such a way that two persons sit on each of the four sides of the table facing the centre. Persons sitting on opposite sides are exactly opposite to each other. S faces North and sits exactly opposite W. T is on the immediate left to W. P and V sit on the same side. V is exactly opposite Q, who is on the immediate right of R. U is next to the left of S.<br>Who is sitting opposite to P ? |
| Alt1 | V |
| Alt2 | S |
| Alt3 | T |
| Alt4 | R |

| | |
|---|---|
| 16 | There are 4 prime numbers written in ascending order. The product of the first three is 385, and that of the last three is 1001, Find the first number |
| Alt1 | 5 |
| Alt2 | 11 |
| Alt3 | 29 |
| Alt4 | 19 |

| | |
|---|---|
| 17 | Mean of the first 10 even numbers is |
| Alt1 | 12 |
| Alt2 | 11 |
| Alt3 | 14 |
| Alt4 | 9 |

| | |
|---|---|
| 18 | If you were to spell out the numbers, how far would you have to go before encountering the letter 'A'? |
| Alt1 | 91 |
| Alt2 | 21 |
| Alt3 | 51 |
| Alt4 | 101 |

| | |
|---|---|
| 19 | A man starts from his office and goes 5 Kms east, Then he turn to the left and again walks for 3 Kms, he turns left and walks 5 kms. At what distance is he from the starting point? |
| Alt1 | 3 |
| Alt2 | 4 |
| Alt3 | 6 |
| Alt4 | 7 |

aglasem.com

| 20 | The first person is 100cm tall. Each subsequent person is 20% taller than the previous person. What is the Median height of 5 persons. |
|---|---|
| Alt1 | 173 |
| Alt2 | 120 |
| Alt3 | 144 |
| Alt4 | 207 |

| 21 | The estimated molar heat capacity of atomic crystals at high-temperature limit by Einstein solid model is:- |
|---|---|
| Alt1 | 1/2 R |
| Alt2 | R |
| Alt3 | 3R |
| Alt4 | 3/2 R |

| 22 | The motion of liquid induced by an applied potential across a porous material is called as:- |
|---|---|
| Alt1 | current density |
| Alt2 | electroosmosis |
| Alt3 | streaming current |
| Alt4 | diffusion |

| 23 | fac and mer isomers of [Co(NH3)3Cl3] are:- |
|---|---|
| Alt1 | ionization isomers |
| Alt2 | coordination isomers |
| Alt3 | optical isomers |
| Alt4 | geometrical isomers |

| 24 | Which one of the following statements is correct regarding C2 and [N2]-? |
|---|---|
| Alt1 | Both C2 and [N2]- are diamagnetic |
| Alt2 | C2 is paramagnetic and [N2]- is diamagnetic |
| Alt3 | Both C2 and [N2]- are paramagnetic |
| Alt4 | C2 is diamagnetic and [N2]- is paramagnetic |

| 25 | Which of the following electronic component is used for converting Alternating Current (AC) to Direct current (DC)? |
|---|---|
| Alt1 | p-n-p Transistor |
| Alt2 | n-p-n Transistor |
| Alt3 | p-n Junction Diode |
| Alt4 | Operational Amplifier |

| 26 | Bohr-Sommerfeld model of the hydrogen atom considers:- |
|---|---|
| Alt1 | Circular orbit of the electron |
| Alt2 | Elliptical orbit of the electron |
| Alt3 | Spiral orbit of the electron |
| Alt4 | Elliptical as well as circular orbit of the electron |

| 27 | The Haber process is used in the manufacture of:- |
|---|---|
| Alt1 | NH3 |

aglasem.com

| | |
|---|---|
| Alt2 | N2H4 |
| Alt3 | N3H |
| Alt4 | NH2OH |

| | |
|---|---|
| 28 | If the enthalpy change for a chemical reaction is negative then the reaction can be:- |
| Alt1 | thermoneutral type |
| Alt2 | exothermic |
| Alt3 | endothermic |
| Alt4 | not feasible |

| | |
|---|---|
| 29 | Correct order of following organic compounds according to increasing dipole moment is:-A: Chloromethane; B: Formaldehyde; C: acetylene |
| Alt1 | A>B>C |
| Alt2 | B>A>C |
| Alt3 | B>C>A |
| Alt4 | A>C>B |

| | |
|---|---|
| 30 | Structure of [ICl4]- is:- |
| Alt1 | square planar |
| Alt2 | trigonal bipyramid |
| Alt3 | tetrahedral |
| Alt4 | see-saw |

| | |
|---|---|
| 31 | The structure of IF7 is:- |
| Alt1 | Octahedral |
| Alt2 | Trigonal bipyramid |
| Alt3 | Square Pyramid |
| Alt4 | Pentagonal bipyramid |

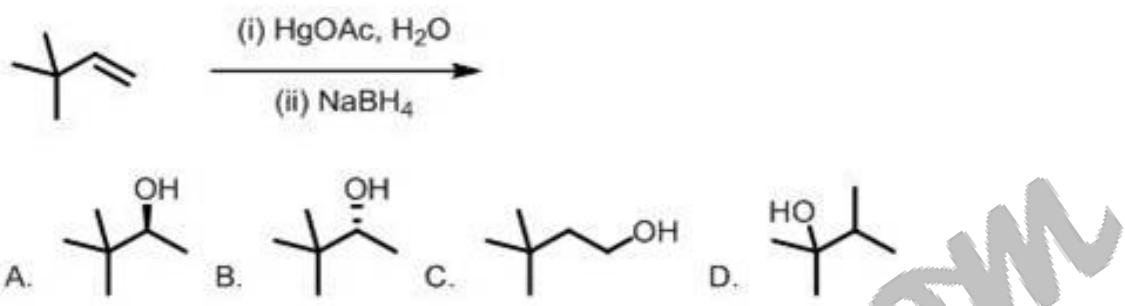
| | |
|---|---|
| 32 | UF6, which is used in nuclear fuel processing, is produced from:- |
| Alt1 | U and ClF |
| Alt2 | U and F2O |
| Alt3 | U and ClF3 |
| Alt4 | U and F2 |

| | |
|---|---|
| 33 | In the case of entropy of mixing of gasses, the Gibbs Paradox arises due to obvious mistake in considering the following parameter:- |
| Alt1 | Improper summation of the mole fractions for the gas |
| Alt2 | The definition of mole fractions for the same gas, |
| Alt3 | The treatment of the logarithmic function improperly |
| Alt4 | The definition of entropy |

| | |
|---|---|
| 34 | The hybridization in XeF4 is:- |
| Alt1 | d2sp2 |
| Alt2 | sp3d3 |
| Alt3 | sp3d2 |
| Alt4 | sp3d |

aglasem.com

| | |
|---|---|
| 35 | Which of the following statement is the Dulong-Petit law for specific heat of solid at constant volume, Cv? |
| Alt1 | Cv = K Tv, K is a constant, and T the absolute temperature |
| Alt2 | Cv-Cv = R, Cp is the specific heat at constant pressure, R is the universal gas constant, |
| Alt3 | Cv = kT, k is the Boltzmann constant, T the absolute temperature, |
| Alt4 | Cv = 3R, R is the universal gas constant, |

| | |
|---|---|
| 36 | Identify the product(s) formed in the following reaction:- |
| |   |
| Alt1 | C alone |
| Alt2 | A alone |
| Alt3 | A, B and D |
| Alt4 | A and B |

| | |
|---|---|
| 37 | In the stable conformation of trans-1,4-diemethylcylohexane, two methyl groups are:- |
| Alt1 | axial and β |
| Alt2 | equatorial and β |
| Alt3 | equatorial and α, β |
| Alt4 | axial and α, β |

| | |
|---|---|
| 38 | B3N3H6 reacts with HCl and gives:- |
| Alt1 | [(BH2)3(NHCl)3] |
| Alt2 | No reaction |
| Alt3 | [(BH2)3(NH2)3] |
| Alt4 | [(BHCl)3(NH2)3] |

| | |
|---|---|
| 39 | The normalization constant of the function (2Φ1- Φ2- Φ3) corresponding to the molecule involving 3π orbital is:- |
| Alt1 | 1/√2 |
| Alt2 | 1/√6 |
| Alt3 | 0 |
| Alt4 | 1/√4 |

| | |
|---|---|
| 40 | I3- ion is:- |
| Alt1 | planar |
| Alt2 | linear |
| Alt3 | V-shape |

aglasem.com

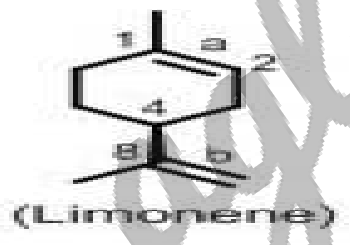
| | |
|---|---|
| Alt4 | T-shape |

| | |
|---|---|
| 41 | In the case of diamagnetic materials which of the following statement is correct:- |
| Alt1 | Magnetic moment is classical in origin |
| Alt2 | Net electronic spin magnetic moment of paired electrons in same orbital is nonzero |
| Alt3 | Individual electronic spin is spin magnetic moment is zero |
| Alt4 | Magnetic moment depends on temperature |

| | |
|---|---|
| 42 | The correct order of bond angles (smallest first) in H2S, NH3, BF3 and SiH4 is:- |
| Alt1 | H2S < SiH4 < NH3 < BF3 |
| Alt2 | NH3 < H2S < SiH4 < BF3 |
| Alt3 | H2S < NH3 < BF3 < SiH4 |
| Alt4 | H2S < NH3 < SiH4 < BF3 |

| | |
|---|---|
| 43 | An organic compound displayed two singlets at 1.5 and 2.0 ppm. The compound is:- |
| Alt1 | isopropyl prionate |
| Alt2 | Methyl pivalate |
| Alt3 | ethyl isobutyrate |
| Alt4 | tert-butyl acetate |

| | |
|---|---|
| 44 | How many isoprene units are present in α-pinene? |
| Alt1 | 4 |
| Alt2 | 2 |
| Alt3 | 3 |
| Alt4 | 1 |

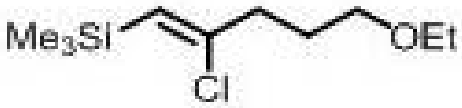
| | |
|---|---|
| 45 |   (Limonene) |
| Alt1 | Inversion of configuration at C(4) |
| Alt2 | Generation of carbocation at C(8) due protonation of double bond b |
| Alt3 | Generation of carbocation at C(1) due protonation of double bond a |
| Alt4 | Generation of carbanion at C(2) |

| | |
|---|---|
| 46 | NF3 and NCl3 are covalent; NCl3 undergoes hydrolysis while NF3 does not because:- |
| Alt1 | dipole moment of NF3 is more than NCl3 |
| Alt2 | electronegativity of F is greater than Cl |
| Alt3 | NF3 is more stable than NCl3 |
| Alt4 | Cl can expand its octet with d-orbitals |

| | |
|---|---|
| 47 | The estimation of rate for unimolecular reaction type is proposed by:- |
| Alt1 | RRK |

aglasem.com

| | |
|---|---|
| Alt2 | RRKM |
| Alt3 | Lindemann |
| Alt4 | Arrhenius |

| | |
|---|---|
| 48 | The major product formed in the following reaction is:- |
| | |
| Alt1 | |
| Alt2 | |
| Alt3 |   |
| Alt4 | |

| | |
|---|---|
| 49 | In Downs process, sodium is extracted from:- |
| Alt1 | Na2SO4 |
| Alt2 | Na2CO3 |
| Alt3 | Na2S |
| Alt4 | NaCl |

| | |
|---|---|
| 50 | Identify correct statement for the reactivity of the following bromides with soft nuclophiles:- |
| | |
| Alt1 | A reacts predominantly via SN1 pathway and B reacts via SN2 |
| Alt2 | A reacts predominantly via SN2 pathway and B reacts via SN1 |
| Alt3 | A and B react via SN2 pathway |
| Alt4 | A and B react via SN1 pathway |

| | |
|---|---|
| 51 | Lattice energy is:- |

aglasem.com

| | |
|---|---|
| Alt1 | directly proportional to the distance between the ions |
| Alt2 | directly proportional to the charge density of the ions |
| Alt3 | inversely proportional to the charge density of the ions |
| Alt4 | not affected by the charge density |

| | |
|---|---|
| 52 | Iron is an example for _____ substance:- |
| Alt1 | Ferromagnetic |
| Alt2 | Ferrimagnetic |
| Alt3 | diamagnetic |
| Alt4 | antiferromagnetic |

| | |
|---|---|
| 53 | In NaCl unit cell structure, the Na+ ions and Cl- ions are placed individually have the following Bravis lattice structure:- |
| Alt1 | Tetragonal |
| Alt2 | Body centered cubic |
| Alt3 | Face centered cubic |
| Alt4 | Simple cubic |

| | |
|---|---|
| 54 | The weakest acid among the following is:- |
| Alt1 | HCl |
| Alt2 | HBr |
| Alt3 | HI |
| Alt4 | HF |

| | |
|---|---|
| 55 | The electrical conductivity of metals exhibit the following trend:- |
| Alt1 | Exhibit trangular wave behaviour |
| Alt2 | Remains constant with increase in temperature |
| Alt3 | Decreases with increase in temperatures |
| Alt4 | Increases with increase in temperatures |

| | |
|---|---|
| 56 | Jahn-Teller distortion is not found in complexes with the following electronic configuration. |
| Alt1 | t2g2 eg0 |
| Alt2 | t2g3 eg1 |
| Alt3 | t2g3 eg2 |
| Alt4 | t2g6 eg1 |

| | |
|---|---|
| 57 | Absorption spectra of aniline in aqueous acid exhibits. |
| Alt1 | Hypochromic effect |
| Alt2 | Hyperchromic effect |
| Alt3 | Bathochromic shift |
| Alt4 | Hypsochromic shift |

| | |
|---|---|
| 58 | The spin only magnetic moment value of [CoF6]3- is:- |
| Alt1 | 4.89 BM |
| Alt2 | 7.9 BM |
| Alt3 | 0 BM |
| Alt4 | 3.2 BM |

aglasem.com

| 59 | The product obtained by positron emission of oxygen-15 is an isotope of:- |
|---|---|
| Alt1 | 7N15 |
| Alt2 | 7N16 |
| Alt3 | 9F15 |
| Alt4 | 9F16 |

| 60 | The molecular formula of phosphorous is:- |
|---|---|
| Alt1 | P2 |
| Alt2 | P4 |
| Alt3 | P3 |
| Alt4 | P |

| 61 | Propose a suitable reagent system for the conversion of 3-hexyne to (E)-3-hexene. |
|---|---|
| Alt1 | H2, Pd/BaSO4 |
| Alt2 | H2, Pd/C |
| Alt3 | NaBH4/NiCl2 |
| Alt4 | Na/ liq NH3 |

| 62 | The complex [Pt(NH3)2Cl2] shows:- |
|---|---|
| Alt1 | Optical isomerism |
| Alt2 | Coordination isomerism |
| Alt3 | Geometrical isomerism |
| Alt4 | Linkage isomerism |

| 63 | How to convert octanol to octanal? |
|---|---|
| Alt1 | KMnO4/NaOH/H2O |
| Alt2 | K2Cr2O7/H2SO2 |
| Alt3 | Jones oxidation |
| Alt4 | Swern oxidation |

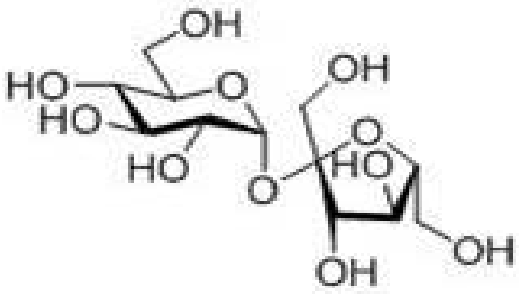
| 64 | How many geometrical isomers are possible for a complex with formula MA4B2 in a planar hexagon geometry? |
|---|---|
| Alt1 | 4 |
| Alt2 | 2 |
| Alt3 | 1 |
| Alt4 | 3 |

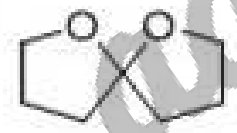
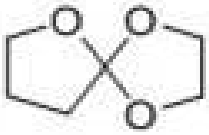
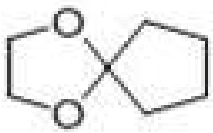
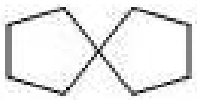
| 65 | Half-life (t½) for the second-order reaction if the reactants in their stoichiometric ratios:- |
|---|---|
| Alt1 | 1/(kA b0) |
| Alt2 | 1/(kB a0) |
| Alt3 | Both of the above |
| Alt4 | ln2/kA |

| 66 | Which one of the following molecule possesses diastereotopic protons? |
|---|---|
| Alt1 | 2-Pentanol |
| Alt2 | Pentanal |

aglasem.com

| | |
|---|---|
| Alt3 | n-Pentanol |
| Alt4 | Pentan-3-one |

| | |
|---|---|
| 67 | Which of the following statements about the following disaccharide are true<br><br><br><br>A. Reducing sugar<br><br>B. Non-reducing sugar<br><br>C. Has two glucose units<br><br>D. Has two mannose units<br><br>E. Undergoes mutaroration<br><br>F. Does not undergo mutarotation? <br> |
| |  |
| Alt1 | A, D and E |
| Alt2 | B, C and F |
| Alt3 | B, D and E |
| Alt4 | A, C and F |

| | |
|---|---|
| 68 | Which one of the following compound is chiral? |
| Alt1 |  |
| Alt2 |  |
| Alt3 |  |
| Alt4 |  |

aglasem.com

| 69 | A function, y = a e-bx , where a and b are two constants, can be converted to the form of a straight line by which of the following mathematical operations? |
|---|---|
| Alt1 | By taking inverse |
| Alt2 | By taking natural logarithm |
| Alt3 | By integrating |
| Alt4 | By differentiation |

| 70 | If the bond length of H—F molecule is 1.2 Å, and polarized charge at the atoms is 1.0 x 10-10 esu. Then the electric dipole moment of the molecule will be:- |
|---|---|
| Alt1 | 3.16 Debye |
| Alt2 | 1.2 Debye |
| Alt3 | 2.16 Debye |
| Alt4 | 4.16 Debye |

| 71 | A hydrocarbon boils at 350 K at 1 atm pressure. The heat of vaporization of the hydrocarbon is:- |
|---|---|
| Alt1 | 7530 cal mol-1 |
| Alt2 | 3750 cal mol-1 |
| Alt3 | 7350 cal mol-1 |
| Alt4 | 735 cal mol-1 |

| 72 | Which of the following are eigen functions of d/dx? |
|---|---|
| Alt1 | log(x) |
| Alt2 | exp(x) |
| Alt3 | sin(x) |
| Alt4 | xn |

| 73 | Which one of the following metals is present in Ziegler-Natta catalyst? |
|---|---|
| Alt1 | Zr |
| Alt2 | Fe |
| Alt3 | Ti |
| Alt4 | Na |

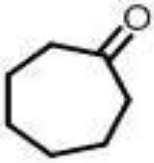
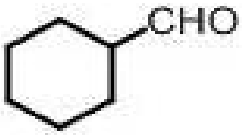
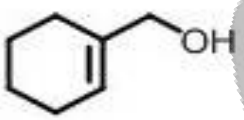
| 74 | When NaCl is heated in presence of sodium vapour, it gives yellow colour. This is due to:- |
|---|---|
| Alt1 | F centre |
| Alt2 | Frenkel defect |
| Alt3 | Schottky defect |
| Alt4 | metal deficiency defect |

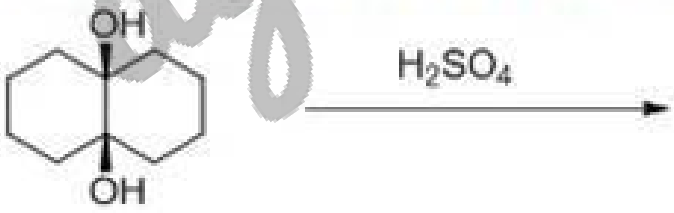
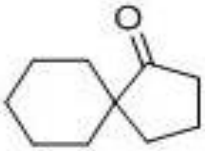
| 75 | In ScC2 has some metallic conduction due to the presence of:- |
|---|---|
| Alt1 | free Sc2+ ions |
| Alt2 | free C22- ions |
| Alt3 | free Sc3+ ions |
| Alt4 | free electrons |

| 76 | Which of the following is zero in particle in a box? |
|---|---|
| Alt1 | zero-point energy |
| Alt2 | average position |

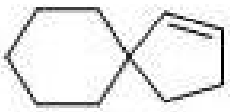
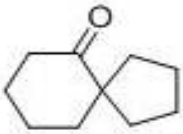
aglasem.com

| | |
|---|---|
| Alt3 | average momentum |
| Alt4 | average kinetic energy |

| | |
|---|---|
| 77 | The major product formed in the following reaction is:-<br> |
| Alt1 |  |
| Alt2 |  |
| Alt3 | |
| Alt4 |  |

| | |
|---|---|
| 78 | Identify the product formed in the following reaction.<br>  |
| Alt1 | |
| Alt2 |  |

aglasem.com

| | |
|---|---|
| Alt3 |  |
| Alt4 |  |

| | |
|---|---|
| 79 | The following conversion can be effected by using:- |
| Alt1 | (i) H2SO4/CH3CN (ii) NaOH |
| Alt2 | NaNH2/THF |
| Alt3 | (i) NaN3/DMSO (ii) LiAlH4 |
| Alt4 | NH3/CH3CN |

| | |
|---|---|
| 80 | Hamiltonian operator does not commute with:- |
| Alt1 | modulus operator |
| Alt2 | Symmetry operator |
| Alt3 | Components of anglular momentum operator |
| Alt4 | Square of the angular momentum operator |

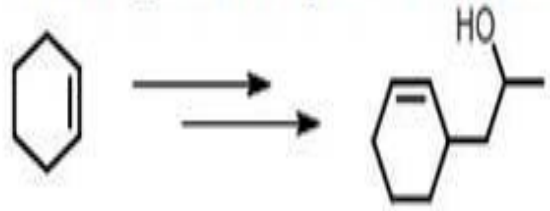
| | |
|---|---|
| 81 | Which among the following is super acid:- |
| Alt1 | CF3COOH |
| Alt2 | H2SO4 |
| Alt3 | HCl |
| Alt4 | HSbF6 |

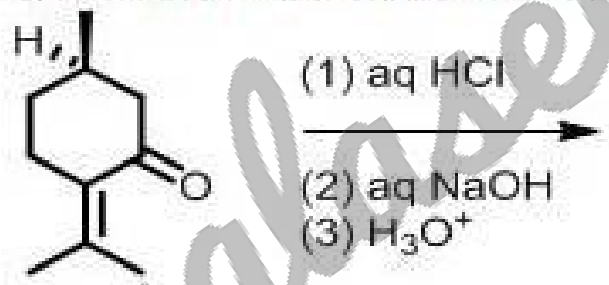
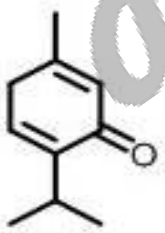
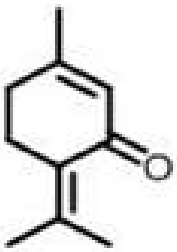
| | |
|---|---|
| 82 | Hamiltonian operator does not commute with:- |
| Alt1 | modulus operator |
| Alt2 | Symmetry operator |
| Alt3 | Components of anglular momentum operator |
| Alt4 | Square of the angular momentum operator |

| | |
|---|---|
| 83 | Which among the following is super acid:- |
| Alt1 | CF3COOH |
| Alt2 | H2SO4 |
| Alt3 | HCl |
| Alt4 | HSbF6 |

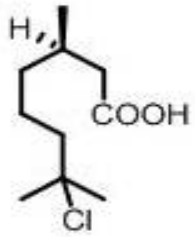
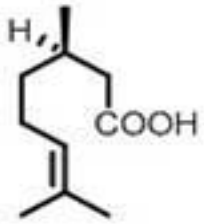
aglasem.com

| | |
|---|---|
| 84 | The vector 2i+j-k is perpendicular to i-4j+λk, where i, j, k are unit vectors, if the value of λ is equal to:- |
| Alt1 | -3 |
| Alt2 | -2 |
| Alt3 | 0 |
| Alt4 | -1 |

| | |
|---|---|
| 85 | Correct sequence of reagents which can be used for the following conversion is:-   |
| Alt1 | (i) NBS, CCl4, (ii) Mg, Et2O, (iii) 2-methyloxirane, (iv) aq HCl |
| Alt2 | (i) NBS, CCl4, (ii) 2-methyloxirane, (iii) Mg, Et2O, (iv) aq HCl |
| Alt3 | (i) Mg, Et2O, (ii NBS, CCl4), (iii) 2-methyloxirane, (iv) aq HCl |
| Alt4 | (i) 2-methyloxirane, (ii) NBS, CCl4, , (iii) aq HCl, (iv) Mg, Et2O |

| | |
|---|---|
| 86 | Major product in the following transformation is:-   |
| Alt1 |   |
| Alt2 |   |

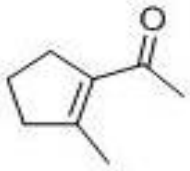
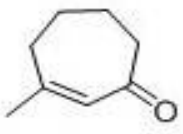
aglasem.com

| | |
|---|---|
| Alt3 |  |
| Alt4 |  |

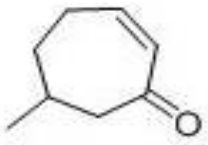
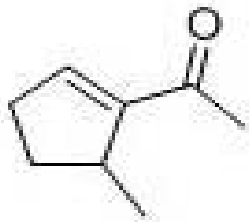
| | |
|---|---|
| 87 | The half life, t1/2, for a first order reaction having rate constant k is given by:- |
| Alt1 | t1/2 = 0.693/(dk/dt), t is the time |
| Alt2 | t1/2 = 0.693/k½ |
| Alt3 | t1/2 = 0.693/k |
| Alt4 | t1/2 = 0.693/k3/2 |

| | |
|---|---|
| 88 | Which of the following statement is wrong about simple harmonic oscillator? |
| Alt1 | Kinetic energy is maximum at maximum displacement |
| Alt2 | Acceleration is proportional to displacement |
| Alt3 | Frequency of oscillation is independent of mass |
| Alt4 | Velocity will be maximum when amplitude is zero |

| | |
|---|---|
| 89 | Madelung constant, which is used in the calculation of lattice energy, depends on:- |
| Alt1 | geometry of the crystal |
| Alt2 | the number of ions per unit formula |
| Alt3 | the charge of the anion |
| Alt4 | the charge of the cation |

| | |
|---|---|
| 90 | What would be product formed in a reaction between 2,7-octanedione and NaOH? |
| Alt1 |  |
| Alt2 |  |

aglasem.com

| | |
|---|---|
| Alt3 |  |
| Alt4 |  |

| | |
|---|---|
| 91 | The equation (x2/a2) - (y2/b2) = 1 describes a:- |
| Alt1 | parabola |
| Alt2 | straight line |
| Alt3 | hyperbola |
| Alt4 | circle |

| | |
|---|---|
| 92 | Identify the compound which corresponds to the 1H-NMR (200 MHz, CDCl3) data: δ 7.31-7.28 (m, 2H), 6.96-6.88 (m, 3H), 3.81 (s, 3H). |
| Alt1 | Acetophenone |
| Alt2 | Methyl benzoate |
| Alt3 | Phenyl acetate |
| Alt4 | Anisole |

| | |
|---|---|
| 93 | If $z=log(x^2+y^2)$ then $x\frac{\partial z}{\partial x}+y\frac{\partial z}{\partial y}$ is:- |
| Alt1 | 2(x2+y2) |
| Alt2 | 1 |
| Alt3 | (x2+y2) |
| Alt4 | 2 |

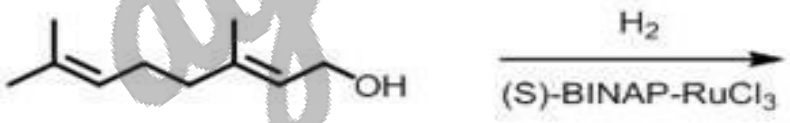
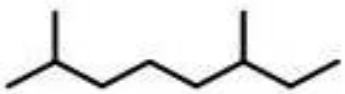
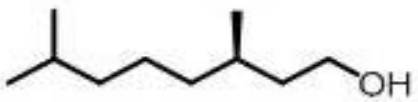
| | |
|---|---|
| 94 | In the differential equation 3(d2y/dx2) + (dy/dx)3 = x, the degree and order is:- |
| Alt1 | 1, 2 |
| Alt2 | 3, 3 |
| Alt3 | 2, 1 |
| Alt4 | 3, 2 |

| | |
|---|---|
| 95 | IUPAC name of [Co(NH3)3Cl3] is:- |
| Alt1 | Triamminetrichlorocobalt(III) |
| Alt2 | Triamminetrichloridocobalt(III) |
| Alt3 | Trichloridotriammoniacobalt(III) |
| Alt4 | Tris(ammonia)trichlorocobalt(III) |

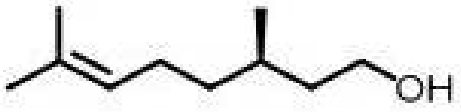
aglasem.com

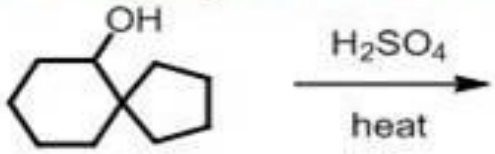
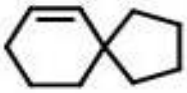
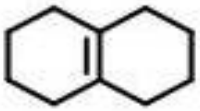
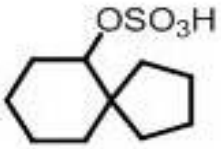
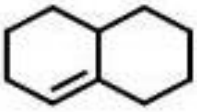
| | |
|---|---|
| 96 | The integral ∫ sin(x) cos(x) dx in the interval a to +a:- |
| Alt1 | is not zero except for certain values of a and cos(x) is symmetric in this range |
| Alt2 | is zero for any value of a and sin(x) is symmetric in this range |
| Alt3 | is zero for any value of a and cos(x) is symmetric in this range |
| Alt4 | is zero for any value of a and cos(x) is antisymmetric in this range |

| | |
|---|---|
| 97 | When an electron of charge e is accelerated through a potential of V volts, the associated wavelength, λ, of the electron will be:- |
| Alt1 | $\lambda = [\frac{h}{(2meV)}]^{1/2}$ |
| Alt2 | $\lambda = \frac{h}{(2meV)^{1/2}}$ |
| Alt3 | $\lambda = \frac{2meV}{h}$ |
| Alt4 | $\lambda = \frac{(2meV)^{1/2}}{h}$ |

| | |
|---|---|
| 98 | Identify the major product in the following reaction:-   |
| Alt1 | |
| Alt2 |  |
| Alt3 |   |

aglasem.com

| | |
|---|---|
| Alt4 |  |

| | |
|---|---|
| 99 | The major product in the following reaction is:-  |
| Alt1 |  |
| Alt2 |  |
| Alt3 |  |
| Alt4 |  |

| | |
|---|---|
| 100 | Which one of the following molecule failed to undergo dehydro-halogenation reaction in presence of NaOCH3 in CH3OH? |
| Alt1 | cis-1-Chloro-2-methylcyclohexane |
| Alt2 | 2-chloro-1,1,3,3-tetramethylcyclohexane |
| Alt3 | trans-1-Chloro-2-methylcyclohexane |
| Alt4 | 1-Chloro-2,2-dimethylcyclohexane |

aglasem.com

Examination: **M.Sc. Chemistry**

## Section 1 - Section 1

### Question No.1 4.00

Bookmark

The hybridization of iodine in $ICl_2^+$ is

- $sp^3d$
- sp
- $sp^3$
- $sp^2$

### Question No.2 4.00

Bookmark

Sulfite ion on treatment with O-atom forms sulfate ion. For this observation, which of the followings is not correct?

- Sulfate ion is the electron donor in the formation of dative bond.
- O-atom behaves as a Lewis base.
- Sulfate ion donates a pair of electron to O-atom.
- O-atom attains octet configuration.

### Question No.3 4.00

Bookmark

The charge to mass ratio (e/m) of positive particles

- Varies with the nature of gas in discharge tube
- Is independent of the gas in discharge tube
- Is constant
- None of the above

### Question No.4 4.00

Bookmark

Optical activity is shown by a molecule

- Contains at least three asymmetric centres
- Is asymmetric as a whole
- Contains a double bond
- Has a centre of symmetry

### Question No.5 4.00

Bookmark

For an ionic crystal of formula AX, the radius ratio lies between 0.732 and 0.414. Its co-ordination number is

- 4
- 8
- 6
- 12

### Question No.6 4.00

Bookmark

AgCl dissolves in aqueous ammonia and not in water because

- Ammonia is a stronger base than water
- Chloride has more affinity for ammonia
- Aqueous ammonia is a better solvent than water
- Silver ions forms soluble complex with ammonia

aglasem.com

**Question No.7** 4.00

**Bookmark**

At infinite dilution, the molar conductance of sodium acetate, hydrochloric acid and sodium chloride are 0.0091, 0.0426 and 0.0126 S $m^2$ $mol^{-1}$, respectively. What would be the molar conductance of acetic acid at that dilution?

- 390 x $10^4$
- 0.0039
- 0.039
- 3.9 x $10^{-4}$

**Question No.8** 4.00

**Bookmark**

During one's first few months in a new culture, one should learn the manners that are customary and _____.

- the language that is speaking
- the spoken there language
- the language that is spoken there
- to be speaking language

**Question No.9** 4.00

**Bookmark**

The entropy change involved in melting of one gram of a solid at 0$^oC$ is ------ cal $K^{-1}$ $g^{-1}$. [Heat of fusion of the solid = 273 cal/g]

- 0.1
- 1
- 10
- 100

**Question No.10** 4.00

**Bookmark**

If Priya was selected, she _____a good surgeon.

- can make
- will make
- would have made
- would make

**Question No.11** 4.00

**Bookmark**

Which one of the following is not a primary standard substance to be used in titrimetric analysis?

- Ferrous ammonium sulfate
- Potassium dichromate
- Oxalic acid
- Potassium permanganate

**Question No.12** 4.00

**Bookmark**

In nitrate ion the N-O bond distance is observed to be 121 pm, which is shorter than N-O (136 pm) and longer than N≡O (115 pm). This is due to

- Existence of resonance in the molecule.
- Charge transfer from O-atom to N-atom.
- Nitrate ion is non-linear.
- Nitrogen is less electropositive than oxygen.

aglasem.com

**Question No.13** 4.00

**Bookmark**

Diborane consists of ------ (2c - 2e) and ------- (3c – 2e) bonds.

- 2 and 6
- 4 and 2
- 2 and 3
- 4 and 6

**Question No.14** 4.00

**Bookmark**

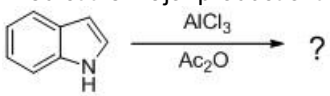
The maximum number of $90^{o}$ angles between bond pair-bond pair of electrons is observed in ----- hybridization.

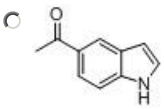
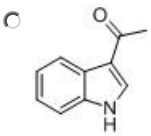
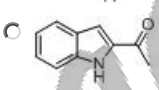
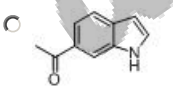
- $sp^3 d$
- $dsp^2$
- $dsp^3$
- $sp^3 d^2$

**Question No.15** 4.00

**Bookmark**

Predict the major product of the reaction.



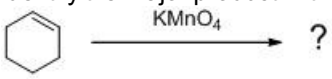

- 
- 
- 
- 

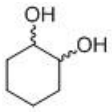
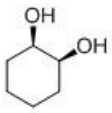
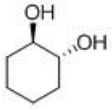
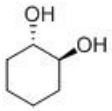
aglasem.com

**Question No.16** 4.00

**Bookmark**

Identify the major product in the following reaction.




- 
- 
- 
- 

**Question No.17** 4.00

**Bookmark**

Which has maximum ionization potential?

- Na
- $O^+$
- O
- N

**Question No.18** 4.00

**Bookmark**

Which of the following nuclei is unstable?

- $_8O^{16}$
- $_4Be^{10}$
- $_5B^{10}$
- $_7N^{14}$

**Question No.19** 4.00

**Bookmark**

Identify the adverb in the following sentence:
We started early in order to see the sunrise.

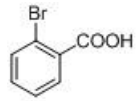
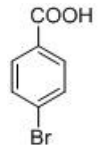
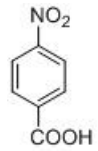
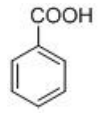
- to see
- early
- started
- in order

aglasem.com

**Question No.20** 4.00

**Bookmark**

Pick the more acidic compound from the lot.

- 
- 
- 
- 

**Question No.21** 4.00

**Bookmark**

Inert pair effect is shown by

- D-block
- S-block
- B-block
- F-block

**Question No.22** 4.00

**Bookmark**

Study the following information carefully and answer the question below it

In a family, Isha is the granddaughter of Asha. Deepa is the mother of Hansa. Charan is the son of Anand. Radha is the mother ofIsha. Deepa is the sister of Vinod and Charan. Nagesh has two children, Gita and Hansa. Emesh is the only grandson in the family. Charan is not married. Radha is the daughter-in-law of Anand.

Who is the daughter of Anand?

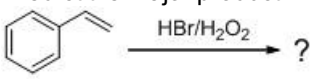
- Gita
- Deepa
- Hansa
- Isha

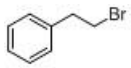
aglasem.com

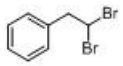
**Question No.23** 4.00

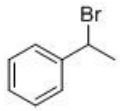
**Bookmark**

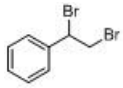
Predict the major product in the following reaction.




- 

- 

- 

- 


**Question No.24** 4.00

**Bookmark**

The metal ion with which one of the following configurations would show strong tetragonal distortion?

- $t_{2g}^3 e_g^2$
- $t_{2g}^6 e_g^3$
- $t_{2g}^6 e_g^4$
- $t_{2g}^4 e_g^0$

**Question No.25** 4.00

**Bookmark**

You are looking at an IR spectrum which measures $\bar{\nu}$ in $cm^{-1}$. How would you convert the frequency to $m^{-1}$?

- Divide by 1000
- Divide by 100
- Multiply by 1000
- Multiply by 100

**Question No.26** 4.00

**Bookmark**

Skew conformation is an intermediate arrangement between

- Enantiomers and diastereomers
- d and l conformation
- Cis and trans isomers
- Eclipsed and staggered forms

aglasem.com

**Question No.27** 4.00

**Bookmark**

The amount of oxalic acid dehydrate required to prepare 10 liters of desi-normal solution is ------.

- 6.3 g
- 63 g
- 0.63 g
- 630 g

**Question No.28** 4.00

**Bookmark**

Amongst the following substituent's in electrophilic substitution reaction the meta directing group is

- $-COCH_3$
- -OH
- -NHCOR
- $-NH_2$

**Question No.29** 4.00

**Bookmark**

Which of the following postulates of Debye-Huckel theory is/are true?

- The strong electrolyte is completely ionised at all dilutions
- The oppositely charged ions are completely distributed in the solution but the cations tend to be found in the vicinity of anions and vice-versa
- Decrease in equivalent conductance with increase in concentration is due to fall in mobilities of ions due to inter-ionic effect
- All of the above

**Question No.30** 4.00

**Bookmark**

Porphyrins are

- bidentate
- tetradentate
- ambidentate
- triidentate

**Question No.31** 4.00

**Bookmark**

Study the following information carefully and answer the question below it:

Aasha, Bhuvnesh,Charan, Danesh, Ekta, Farhan, Ganesh and Himesh are sitting around a circle, facing the centre. Aasha sits fourth to the right of Himesh while second to the left of Farhan. Charan is not the neighbour of Farhan and Bhuvnesh. Danesh sits third to the right of Charan. Himesh never sits next to Ganesh.

Three of the following are alike in a certain way based on their positions in the seating arrangement and so form a group. Which is the one that does not belong to that group?

- DaneshCharan
- Himesh Farhan
- BhuvneshDanesh
- Ganesh Ekta

aglasem.com

**Question No.32** 4.00

**Bookmark**

A man complete a journey in 10 hours. He travels first half of the journey at the rate of 21 km/hr and second half at the rate of 24 km/hr. Find the total journey in km.

- 224
- 230
- 220
- 250

**Question No.33** 4.00

**Bookmark**

Which of the following isotope is used for the treatment of leukemia

- $sp^3d$
- sp
- $sp^2$
- $sp^3$

**Question No.34** 4.00

**Bookmark**

Which one of the following metal ions doesn't form inner-sphere octahedral complex?

- Sc(II)
- Ni(II)
- Co(III)
- Fe(III)

**Question No.35** 4.00

**Bookmark**

The maximum convertibility of heat into work can be achieved by subjecting one mole of an ideal gas to the following operations (in sequence).

- Adiabatic expansion, isothermal expansion, adiabatic compression and isothermal compression
- Isothermal expansion, adiabatic expansion, isothermal compression and adiabatic compression
- Adiabatic expansion, adiabatic compression, isothermal expansion and adiabatic compression
- Isothermal compression, adiabatic compression, adiabatic expansion and isothermal expansion

**Question No.36** 4.00

**Bookmark**

The number of unpaired electron present in the HOMO of $O_2^{2+}$ and $O_2^-$ are found to be ------ and ------, respectively.

- 1 and 0
- 1 and 1
- 0 and 0
- 0 and 1

aglasem.com

**Question No.37** 4.00

**Bookmark**

If 0.10 M solution of sucrose is reduced to 0.05 M in 10 hours and to 0.025 M in 20 hours through fermentation in an enzyme solution, what is the rate constant for the reaction?

- $1.9 \times 10^{-5}\ s^{-1}$
- $0.693\ s^{-1}$
- $6.93 \times 10^{-2}\ s^{-1}$
- $0.01155\ s^{-1}$

**Question No.38** 4.00

**Bookmark**

The stereochemical character of $S_N^2$ reaction is

- retention
- racemization
- reduction
- inversion

**Question No.39** 4.00

**Bookmark**

The formula used for the determination of surface tension by capillary rise method is

- $2\gamma = \pi hr^2dg$
- $2\gamma = hr^2dg$
- $2\gamma = hrdg$
- $2\gamma = \pi r \cos\theta$

**Question No.40** 4.00

**Bookmark**

Choose the correct meaning to the italicized idiom.
Vijay does not *see eye to eye* with me in this matter.

- To have same opinion
- To give a correct decision
- To have the same eyesight
- To obtain suitable punishment

**Question No.41** 4.00

**Bookmark**

Which of the following represent equilibrium constants?

- Weak acid or weak base dissociation constant
- $K_c$ for a reaction
- Concentration of a strong acid in water
- ( a) and (b) represent equilibrium constants

**Question No.42** 4.00

**Bookmark**

A regular cubic system consists of ---- planes and ----- axes of symmetry.

- 6 and 12
- 4 and 1
- 6 and 3
- 9 and 13

aglasem.com

**Question No.43** 4.00

Bookmark

The total number of atoms in a body centred cubic unit cell is

- 3
- 4
- 1
- 2

**Question No.44** 4.00

Bookmark

Which one of the following conditions represents a spontaneous reaction?

- $\Delta S$ = positive
- $\Delta G = 0$
- $\Delta H$ = negative
- $\Delta G$ = negative

**Question No.45** 4.00

Bookmark

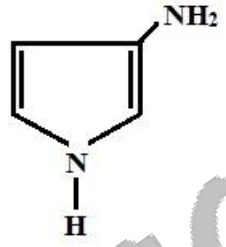
Which one of the followings will not obey 18 electron rule?

- $[Mn(CO)_5]$
- $[Mn_2(CO)_{10}]$
- $[Fe(CO)_4]^{2-}$
- $[Fe(CO)_5]$

**Question No.46** 4.00

Bookmark

The correct IUPAC name of the compound




- 2-aminopyrrole
- 3-aminopyridine
- 2-aminopyridine
- 3-aminopyrrole

aglasem.com

**Question No.47** 4.00

Bookmark

While titrating 0.1 M acetic acid taken in a clean conical flask against 0.1 M sodium hydroxide as titrant, what would be the pH value of the solution in the conical flask initially? [Given that: the dissociation constant of acetic acid is 0.000018

- 1.8
- 0.18
- 2.87
- 7.000018

**Question No.48** 4.00

**Bookmark**

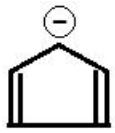
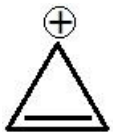
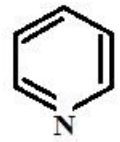
At isoelectric point the conjugate acid of glycine is -----.

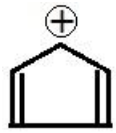
- $H_3N^+CH_2COOH$
- $H_2NCH_2COO^-$
- $H_2NCH_2COOH$
- $H_3N^+CH_2COO^-$

**Question No.49** 4.00

**Bookmark**

Which of the following is not aromatic

- 
- 
- 

- 

**Question No.50** 4.00

**Bookmark**

13, 35, 57, 79, 911, ?

- 1311
- 1315
- 1113
- 1112

**Question No.51** 4.00

**Bookmark**

Choose the correct meaning of the italicized idiom.
The father was right in giving a *piece of his mind* to the son.

- Speaking sadly
- Speaking cheerfully
- Speaking sharply
- Speaking kindly

aglasem.com

**Question No.52** 4.00

**Bookmark**

Differentiate the following equation: $y = 6x^{-3}$

- $\frac{dy}{dx} = -3x^{-2}$
- $\frac{dy}{dx} = -18x^{-2}$
- $\frac{dy}{dx} = -12x^{-3}$
- $\frac{dy}{dx} = -18x^{-4}$

**Question No.53** 4.00

**Bookmark**

John teller effect affects the geometry of ……

- $[Ni(NH_3)_6]^{2+}$
- $[MnCl_4]^{2-}$
- $[NiCl_4]^{2-}$
- $[Cu(NH_3)_6]^{2+}$

**Question No.54** 4.00

**Bookmark**

In cubic close packed (ccp) pattern of a metallic crystal, the co-ordination number is

- 8
- 4
- 12
- 6

**Question No.55** 4.00

**Bookmark**

Soret band is an intense ----- absorption band in the near UV region of a heme protein.

- $\pi \longrightarrow \sigma^*$
- $n \longrightarrow \pi^*$
- $\pi \longrightarrow \pi^*$
- $\sigma \longrightarrow \pi^*$

aglasem.com

**Question No.56** 4.00

Bookmark

The standard electrode potential for the conversion of Cr(III) to Cr(VI) is −1.33 V. Which one of the following statements is not correct?

- Cr(III) cannot lose three electrons spontaneously.
- Cr(VI) can act as an oxidizing agent.
- Cr(VI) is not a reducing agent.
- Cr(III) is an oxidizing agent.

**Question No.57** 4.00

Bookmark

The number of unshared electrons present on the carbon atom of carbene is

- 1
- 2
- 3
- 4

**Question No.58** 4.00

Bookmark

Find the determinant of

$$\begin{pmatrix} 2 & 5 & 8 \\ 5 & 3 & 7 \\ 4 & 6 & 9 \end{pmatrix}$$

- 29
- -89
- 199
- 259

**Question No.59** 4.00

Bookmark

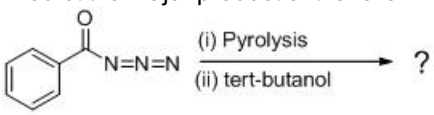
Which one of the following complexes would have relatively lower CFSE value?

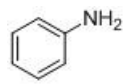
- $[Ni(H_2O)_6]^{2+}$
- $[Co(NH_3)_6]^{3+}$
- $[Mn(H_2O)_6]^{2+}$
- $[CoF_6]^{3-}$

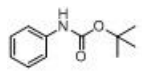
**Question No.60** 4.00

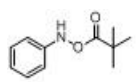
Bookmark

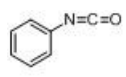
Predict the major product of the following reaction.




- 

- 

- 

- 


aglasem.com

**Question No.61** 4.00

**Bookmark**

Choose the best antonym of the italicized word.
Keerthi did not like her husband being *obsequious* to his boss.

- gentle
- indifferent
- defiant
- courteous

**Question No.62** 4.00

**Bookmark**

Satements: All dogs are tall, All cats are tall.
Conclusion:
I.All dogs are cat
II. All cats are dogs

- If neither I nor II follows
- If either I or II follows
- If only conclusion I follows
- If only conclusion II follows

**Question No.63** 4.00

**Bookmark**

*In the following question, the first two words (given in italics) have a definite relationship. Choose one word out of the given four alternatives which will fill the blank space and showthe same relationship with the third word as between the first two.*

*Orange* is to *Peel* as *Tooth* is to ……?……

- Enamel
- Joints
- Gums
- Brush

**Question No.64** 4.00

**Bookmark**

Which one of the followings is correct in an isothermal expansion of an ideal gas?

- $\Delta U = +$ and $\Delta H = 0$
- $\Delta U = 0$ and $\Delta H = +$
- $\Delta U = +$ and $\Delta H = +$
- $\Delta U = 0$ and $\Delta H = 0$

**Question No.65** 4.00

**Bookmark**

Steam is passed on iron rod which forms iron oxide and hydrogen. If the reactants and products are in equilibrium, the number of components and phases present are ------, respectively.

- 1 and 2
- 3 and 3
- 4 and 2
- 4 and 3

aglasem.com

**Question No.66** 4.00

**Bookmark**

Which of the following iron complex is involved in electron transfer in plants and bacteria?

- Transferin
- Ferrintin
- Myoglobin
- Ferridoxins

**Question No.67** 4.00

**Bookmark**

-I effect is largest for

- Br
- F
- Cl
- I

**Question No.68** 4.00

**Bookmark**

The entropy of the system increases in the order

- Gas < liquid < solid
- Solid< liquid< gas
- Gas
- None of these

**Question No.69** 4.00

**Bookmark**

How many geometrical isomers are possible for [Mabcd]? Where a, b, c and d are modentate ligands.

- Three
- One
- Four
- Two

**Question No.70** 4.00

**Bookmark**

What is the effective atomic number of the metal atom in ferrocence?

- 18
- 50
- 36
- 26

**Question No.71** 4.00

**Bookmark**

Adsorbate is that substance

- Which concentrates on the surface
- Where adsorption takes place
- Which evaporates from the surface of metals
- None of these

aglasem.com

**Question No.72** 4.00

**Bookmark**

The number of photons that pass through a unit area in a unit time is called

- Amplitude of light
- Intensity of light
- Wavelength of light
- Frequency of light

**Question No.73** 4.00

**Bookmark**

The hybridization of the carbon atom of the carbocation is of the type

- $dsp^2$
- $sp^2$
- sp
- $sp^3$

**Question No.74** 4.00

**Bookmark**

The shape of $XeOF_4$ is

- Pyramidal
- T-Shaphed
- Octahedral
- Square pyramidal

**Question No.75** 4.00

**Bookmark**

Based on the information given, answer the below question.
1. A,B,C,D,E and F are travelling in a bus.
2. There are two reporters, two mechanics, one photographer and one writer in the group.
3. Photographer A is married to D who is a reporter.
4. The writer is married to B who is of the same profession as that of F.
5. A,B,C,D are two married couples and no one in this belong to the same profession.
6. F is the brother of C.

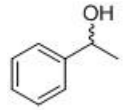
Which of the following is the pair of mechanics?

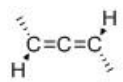
- Cannot be determined
- AF
- BF
- CE

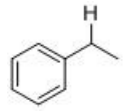
**Question No.76** 4.00

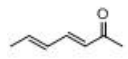
**Bookmark**

Which one of the following molecules is optically active?

- 

- 

- 

- 


aglasem.com

**Question No.77** 4.00

**Bookmark**

Complete the following nuclear reaction $13Al^{27} + 2He^{4} \rightarrow 14P^{30} + ....?$

- $_1H^2$
- $_{-1}e^0$
- $_0n^1$
- $_1H^1$

**Question No.78** 4.00

**Bookmark**

Study the following information carefully and answer the question below it

(i) There is a group of five persons- A, B, C, D and E
(ii) One of them is manual scavenger, one is sweeper, one is watchman, one is human scarecrow and one is grave-digger
(iii) Three of them – A, C and grave-digger prefer tea to coffee and two of them – B and the watchman prefer coffee to tea
(iv) The human scarecrow and D and A are friends to one another but two of these prefer coffee to tea.
(v) The manual scavenger is C's brother

Who is a sweeper?

- D
- C
- E
- A

aglasem.com

**Question No.79** 4.00

**Bookmark**

If BAT= 40, AT= 20 then CAT= ?

- 60
- 50
- 43
- 80

**Question No.80** 4.00

**Bookmark**

The wavelength of large objects is of no significance as it is too _____ to be measurable.

- Large
- Small
- Heavy
- None of these

**Question No.81** 4.00

**Bookmark**

Which one of the following decay takes place in phosphorescence

- $S_1 \rightarrow S_0$
- $T_1 \rightarrow S_0$
- $T_2 \rightarrow T_1$
- $T_2 \rightarrow S_1$

**Question No.82** 4.00

**Bookmark**

According to Pearson's HSAB principle, which one of the followings doesn't exists in nature?

- HgS
- MgS
- $Al_2O_3$
- CaO

**Question No.83** 4.00

**Bookmark**

Which of the following molecules will not show infrared spectrum

- HCl
- $H_2$
- $H_2O$
- $CH_4$

**Question No.84** 4.00

**Bookmark**

The cell constant can be obtained by

- Dividing specific conductance by observed conductance
- Multiplying specific conductance by observed conductance
- Multiplying specific conductance by equivalent conductance
- Dividing observed conductance by specific conductance

**Question No.85** 4.00

**Bookmark**

Which group of compound does not involve the π-π* transition in UV visible spectroscopy?

- Alkenes
- Alcohols
- Cyanides
- Azo compounds

**Question No.86** 4.00

**Bookmark**

The difference between the molar heat capacity of a gas at constant pressure and at constant volume is equal to --------.

- 1.987 J
- 8.314 J
- 8.314 kJ/mol
- 2 kcal

aglasem.com

**Question No.87** 4.00

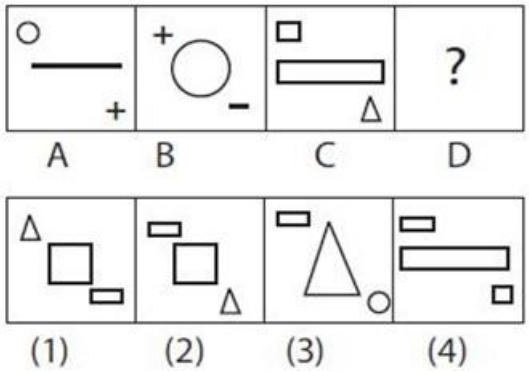
**Bookmark**

In alkene, electrophilic addition occurs via ----- type of intermediate.

- Free radical
- carbene
- Carbanion
- Carbocation

**Question No.88** 4.00

**Bookmark**




- 4
- 2
- 1
- 3

**Question No.89** 4.00

**Bookmark**

Statement: Among all the articles, Prices of laptops show the highest decline from June 2017 to December 2017.
Assumptions:
I. Comparative prices of all articles were available from June 2017 to December 2017.
II. The prices laptops were higher in the first 6 months than the last 6 months.

- If neither I nor II is implicit
- If only assumption II is implicit
- If both I and II are implicit
- If only assumption I is implicit

**Question No.90** 4.00

**Bookmark**

Only after food has been dried_____

- it should be stored for later consumption
- that is should be stored for later consumption
- should it be stored for later consumption
- should be stored for later consumption

**Question No.91** 4.00

**Bookmark**

Choose the best synonym of the italicized word.
The security arrangements made for the visiting dignitary were *impeccable.*

- elaborate
- flawless
- grand
- tight

aglasem.com

**Question No.92** 4.00

**Bookmark**

The order of stability of the following is represented correctly in

- $CH_3 < CF_3 > C(CF_3)_3$
- $CH_3 > CF_3 > C(CF_3)_3$
- $CH_3 > CF_3 < C(CF_3)_3$
- $CH_3 < CF_3 < C(CF_3)_3$

**Question No.93** 4.00

**Bookmark**

In a solid lattice, a cation has left a lattice site and is present in interstitial position, the lattice defect is

- Schottky defect
- Vacancy defect
- Interstitial defect
- Frenkel defect

**Question No.94** 4.00

**Bookmark**

How many isomers of $[Co(NH_3)_4 (H_2O)_2]^{3+}$

- 5
- 4
- 3
- 2

**Question No.95** 4.00

**Bookmark**

$2\ NO + Cl_2 \rightarrow 2\ NOCl_2$

The rate of the above reaction was found to be doubled when the chlorine concentration is doubled and increases by a factor of eight when the concentrations of both the reactants are doubled. What is the overall order of the reaction?

- Four
- Two
- One
- Three

aglasem.com

**Question No.96** 4.00

**Bookmark**

The reagent used in Stobbe condensation is

- Anhy. $AlCl_3$
- Zn/HCl
- $KNH_2$ in liq. $NH_3$
- $KOC(CH_3)_3$

**Question No.97** 4.00

**Bookmark**

Which three factors affect the rate of a chemical reaction?

- Temperature, reactant concentration and pressure
- Temperature, pressure and humidity
- Temperature, reactant concentration and catalyst
- Temperature, product concentration and container volume

**Question No.98** 4.00

**Bookmark**

Multi-molecular layers are formed in

- Chemisorption
- Physical adsorption
- Reversible adsorption
- Absorption

**Question No.99** 4.00

**Bookmark**

Choose the missing term:FLP, INS,LPV, ?

- VXZ
- ORY
- SYZ
- UXZ

**Question No.100** 4.00

**Bookmark**

The metal required in enzymes to maintain sexual maturity and reproduction process is ---------.

- Copper
- Molybdenum
- Iron
- Zinc

aglasem.com