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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | Which of the following possess net dipole moment? |
| ((OPTION\_A)) | BF3 |
| ((OPTION\_B)) | SO2 |
| ((OPTION\_C)) | CO2 |
| ((OPTION\_D)) | BeCl2 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | B |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | Propanoic acid undergoes HVZ reaction to give chloro propanoic acid. The product obtained is |
| ((OPTION\_A)) | As stronger as propanoic acid |
| ((OPTION\_B)) | Stronger acid than propanoic acid |
| ((OPTION\_C)) | Stronger than dichloropropanoic acid |
| ((OPTION\_D)) | Weaker acid than propanic acid |
| ((CORRECT\_CHOICE)) (A/B/C/D) | B |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | The vitamin that helps in clotting of blood is |
| ((OPTION\_A)) | **C** |
| ((OPTION\_B)) | **A** |
| ((OPTION\_C)) | **K** |
| ((OPTION\_D)) | **B2** |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | Solubility of AgCl is least in |
| ((OPTION\_A)) | Pure water |
| ((OPTION\_B)) | 0.1M NaCl |
| ((OPTION\_C)) | 0.1M AlCl3 |
| ((OPTION\_D)) | 0.1M BaCl2 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | The metal nitrate that liberates NO2 on heatinG |
| ((OPTION\_A)) | LiNO3 |
| ((OPTION\_B)) | NaNO3 |
| ((OPTION\_C)) | RbNO3 |
| ((OPTION\_D)) | KNO3 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | A |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | Which of the following is the conjugate acid of SO42- |
| ((OPTION\_A)) | HSO4- |
| ((OPTION\_B)) | H+ |
| ((OPTION\_C)) | H2SO4 |
| ((OPTION\_D)) | SO42- |
| ((CORRECT\_CHOICE)) (A/B/C/D) | A |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | The electro negativity of the following elements increases in the order |
| ((OPTION\_A)) | C, N, Si, P |
| ((OPTION\_B)) | N, Si, C, P |
| ((OPTION\_C)) | Si, P,C, N |
| ((OPTION\_D)) | P, Si, N, C |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | The oxidation number of iron in potassium ferro cyanide : K4[Fe(CN)6] is |
| ((OPTION\_A)) | +4 |
| ((OPTION\_B)) | -3 |
| ((OPTION\_C)) | +6 |
| ((OPTION\_D)) | +2 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | D |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | Dry ice is |
| ((OPTION\_A)) | Solid CO |
| ((OPTION\_B)) | Solid SO2 |
| ((OPTION\_C)) | Solid CO2 |
| ((OPTION\_D)) | Solid O2 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | The number of proper subsets of {1,2,3} is |
| ((OPTION\_A)) | 8 |
| ((OPTION\_B)) | 6 |
| ((OPTION\_C)) | 4 |
| ((OPTION\_D)) | 3 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | A |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | The total number of terms in the expansion of (x+a)^51 - (x-a)^51 after simplification is |
| ((OPTION\_A)) | 102 |
| ((OPTION\_B)) | 26 |
| ((OPTION\_C)) | 25 |
| ((OPTION\_D)) | 30 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | B |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | If a relation R on the set {1,2,3} be defined by R= {(1,1)}, then R is |
| ((OPTION\_A)) | Only symmetric |
| ((OPTION\_B)) | Reflexive and symmetric |
| ((OPTION\_C)) | Reflexive and transitive |
| ((OPTION\_D)) | Symmetric and transitive |
| ((CORRECT\_CHOICE)) (A/B/C/D) | D |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | The value of (1 - tan215°) / (1 + tan215°) is |
| ((OPTION\_A)) | Only symmetric |
| ((OPTION\_B)) | Reflexive and symmetric |
| ((OPTION\_C)) | Reflexive and transitive |
| ((OPTION\_D)) | Symmetric and transitive |
| ((CORRECT\_CHOICE)) (A/B/C/D) | D |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | The value of sin(sin-1(π/12) + cos-1(π/12)) = |
| ((OPTION\_A)) | 2 |
| ((OPTION\_B)) | 1 |
| ((OPTION\_C)) | 2 |
| ((OPTION\_D)) | 0 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | B |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | If y = 4x + k is a tangent to the hyperbola ( x^2 / 64 ) - ( y^2 / 49) =1, then k = |
| ((OPTION\_A)) | 56 |
| ((OPTION\_B)) | ±500 |
| ((OPTION\_C)) | ±√251 |
| ((OPTION\_D)) | ±√975 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | D |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | Let A be a square matrix of order 3 × 3, then |5A| = |
| ((OPTION\_A)) | 5|A| |
| ((OPTION\_B)) | 15|A| |
| ((OPTION\_C)) | 125 |A| |
| ((OPTION\_D)) | None of these |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | The probability of getting 2 or 3 or 4 from a throw of single dice is |
| ((OPTION\_A)) | 1/6 |
| ((OPTION\_B)) | 2/3 |
| ((OPTION\_C)) | 1/2 |
| ((OPTION\_D)) | none of these |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | ∫((sin2x) / (1+cosx)) dx |
| ((OPTION\_A)) | x + cosx +c |
| ((OPTION\_B)) | x + sinx + c |
| ((OPTION\_C)) | x - cosx + c |
| ((OPTION\_D)) | None of these |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | A capacitor of capacitance C charged by an amount Q is in parallel with an uncharged capacitor of capacitance 2C. The final charges on the capacitors are |
| ((OPTION\_A)) | Q/4, 3Q/4 |
| ((OPTION\_B)) | Q/5, 4Q/5 |
| ((OPTION\_C)) | Q/2, Q/2 |
| ((OPTION\_D)) | Q/3, 2Q/3 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | D |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | Young’s modulus of a perfect rigid body is |
| ((OPTION\_A)) | Between zero and unity |
| ((OPTION\_B)) | Zero |
| ((OPTION\_C)) | Unity |
| ((OPTION\_D)) | infinity |
| ((CORRECT\_CHOICE)) (A/B/C/D) | D |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | de Broglie wavelength associated with electron of hydrogen atom in its ground state |
| ((OPTION\_A)) | 10A0 |
| ((OPTION\_B)) | 0.3A0 |
| ((OPTION\_C)) | 3.3A0 |
| ((OPTION\_D)) | 6.2A0 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| (EXPLANATION)) (OPTIONAL) |  |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | If E and B represents electric and magnetic field vectors of an electromagnetic wave, the direction of propagation of the wave is along |
| ((OPTION\_A)) | E |
| ((OPTION\_B)) | B |
| ((OPTION\_C)) | EXB |
| ((OPTION\_D)) | BXE |
| ((CORRECT\_CHOICE)) (A/B/C/D) | C |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | In an adiabatic expansion of an ideal gas the product of pressure and volume |
| ((OPTION\_A)) | At first increases and then decreases |
| ((OPTION\_B)) | Decreases |
| ((OPTION\_C)) | Increases |
| ((OPTION\_D)) | Remains constant |
| ((CORRECT\_CHOICE)) (A/B/C/D) | B |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | In series LCR circuit, the power dissipation is through |
| ((OPTION\_A)) | R |
| ((OPTION\_B)) | L |
| ((OPTION\_C)) | C |
| ((OPTION\_D)) | Both L and C |
| ((CORRECT\_CHOICE)) (A/B/C/D) | A |
| ((EXPLANATION)) (OPTIONAL) |  |

|  |  |
| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | The strength of earth’s magnetic field is |
| ((OPTION\_A)) | Constant everywhere |
| ((OPTION\_B)) | Zero everywhere |
| ((OPTION\_C)) | Having very high value |
| ((OPTION\_D)) | Varying from place to place on the earth surface |
| ((CORRECT\_CHOICE)) (A/B/C/D) | D |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | Correct Biot-Savarts law in vector form is |
| ((OPTION\_A)) | dB= (µ0/4π) [I(dlxr)]/r2 |
| ((OPTION\_B)) | dB=( µ0/4π) [I(dlxr)]/r3 |
| ((OPTION\_C)) | dB= (µ0/4π) [I(dl)]/r2 |
| ((OPTION\_D)) | dB= (µ0/4π) [I(dl)]/r3 |
| ((CORRECT\_CHOICE)) (A/B/C/D) | B |
| ((EXPLANATION)) (OPTIONAL) |  |

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| --- | --- |
| ((MARKS)) (1/2/3...) | 1 |
| ((QUESTION)) | A plane wave front of wavelength **˄** is incident on a single slit of width a, the angular width of the principal maximum is |
| ((OPTION\_A)) | **˄/**a |
| ((OPTION\_B)) | 2**˄/**a |
| ((OPTION\_C)) | a/**˄** |
| ((OPTION\_D)) | a/2**˄** |
| ((CORRECT\_CHOICE)) (A/B/C/D) | A |
| ((EXPLANATION)) (OPTIONAL) |  |