|  |  |
| --- | --- |
| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | **The number of proper subsets of 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 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 be defined by *R=,*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 is** |
| ((OPTION\_A)) |  |
| ((OPTION\_B)) |  |
| ((OPTION\_C)) |  |
| ((OPTION\_D)) |  |
| ((CORRECT\_CHOICE)) (A/B/C/D) | A |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) | **The value of** |
| ((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 is a tangent to the hyperbola , then k=** |
| ((OPTION\_A)) | **56** |
| ((OPTION\_B)) |  |
| ((OPTION\_C)) |  |
| ((OPTION\_D)) |  |
| ((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** |
| ((OPTION\_B)) | **15** |
| ((OPTION\_C)) | **125** |
| ((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)) |  |
| ((OPTION\_B)) | **2/3** |
| ((OPTION\_C)) | **½** |
| ((OPTION\_D)) | **none of these** |
| ((CORRECT\_CHOICE)) (A/B/C/D) | **C** |
| ((EXPLANATION)) (OPTIONAL) |  |

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| ((MARKS)) (1/2/3...) | **1** |
| ((QUESTION)) |  |
| ((OPTION\_A)) |  |
| ((OPTION\_B)) |  |
| ((OPTION\_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)) |  |
| ((OPTION\_A)) | **20** |
| ((OPTION\_B)) | **10** |
| ((OPTION\_C)) | **5** |
| ((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) |  |

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| --- | --- |
| ((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)) | Five identical resistors each of resistance R= 1500Ω are connected to a 300V battery as shown in the circuit. The readings of the ideal ammeter A is |
| ((OPTION\_A)) | (1/5)A |
| ((OPTION\_B)) | (3/5)A |
| ((OPTION\_C)) | (2/5)A |
| ((OPTION\_D)) | (4/5)A |
| ((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) |  |

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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) |  |

|  |  |
| --- | --- |
| ((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) |  |

|  |  |
| --- | --- |
| ((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) |  |

|  |  |
| --- | --- |
| ((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 IUPAC name of the following is |
| ((OPTION\_A)) | 1- bromo-4- methoxy 3- nitrobenzene |
| ((OPTION\_B)) | 4-bromo-1-methoxy 2- nitrobenzene |
| ((OPTION\_C)) | 1- methoxy-2- nitro 4-bromo benzene |
| ((OPTION\_D)) | 4-bromo-2- nitro -1-methoxy benzene |
| ((CORRECT\_CHOICE)) (A/B/C/D) | B |
| ((EXPLANATION)) (OPTIONAL) |  |