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Total No. of Pages : 02

Total No. of Questions : 18

B.Sc. (BT) (2018 Batch) (Sem.-2)

PHYSICAL CHEMISTRY

Subject Code : BSBT-201-18

M.Code : 75872

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Write briefly :

- Q1) State first law of thermodynamics.
- Q2) Calculate the enthalpy of Combustion of methane if enthalpy of formation of methane, carbon dioxide and water are -74.8, -393.5 and -286.2KJ respectively.
- Q3) Classify the electrolyte and give examples?
- Q4) Define Order of a Reaction. Explain with suitable examples.
- Q5) What is Binary Solution?
- Q6) What are intensive and extensive properties? Give examples.
- Q7) What are the units of specific conductance?
- Q8) Explain half life of complex reaction.
- Q9) Give the relationship between entropy and free energy of a reaction.
- Q10) Explain Raoult's law.

SECTION-B

- Q11) How can we calculate the transport number?
- Q12) Explain conductometric titration between strong acid and strong base.
- Q13) What are colligative properties and Azeotropes?
- Q14) What is the relationship between osmotic pressure and Relative lowering of vapour pressure?
- Q15) What is van't Hoff factor and explain its use?

SECTION-C

- Q16) Calculate the change in internal energy of an ideal gas in an isothermal reversible process.
- Q17) Derive the relationship between :
- Depression in freezing point and lowering of vapour pressure.
 - Elevation in boiling point and osmotic pressure.
- Q18) What is rate of reaction and the factors influencing the rate of reaction?

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC case against the Student.