

V55/V62/V63/T14011/T07011/T04011/EE/2016

Time : 3 Hours

Marks : 80

Instructions :

1. All Questions are Compulsory.
 2. Each Sub-question carry 5 marks.
 3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
 4. Question paper of 80 Marks, it will be converted in to your programme structure marks.
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1. Solve any **four** sub-questions.
 - a) State two specific heats of gases. 5
 - b) State and explain Newton's law of viscosity. 5
 - c) Define cohesive force and adhesive force. 5
 - d) Define modulus of rigidity. Write down its S.I. unit. 5
 - e) State factors which affects 'Angle of contact' for a liquid or fluid and give significance of it. 5
2. Solve any **four** sub-questions.
 - a) A liquid rises up height of 5.2 cm in a capillary tube of diameter 0.82mm. How high will it rise in another tube of radius 0.025 cm? 5
 - b) Explain electroplating process with example. 5
 - c) Explain the relation between Electrochemical Equivalent (Z) and Chemical Equivalent (CE). 5
 - d) How long will light take in travelling a distance 500m in water? R.I. of water is $\frac{4}{3}$ and velocity of light in vacuum is 3×10^8 m/s. 5
 - e) Explain electro fining of copper with suitable diagram. 5

3. Solve any **four** sub-questions.
- a) Differentiate between atomic number and atomic mass number. 5
- b) Write electronic configuration of following elements
 ${}_{11}\text{Na}^{23}$, ${}_{17}\text{Cl}^{35}$, ${}_{13}\text{Al}^{27}$, ${}_{10}\text{Ne}^{20}$ 5
- c) Why electrons do not fall in the nucleolus? 5
- d) Distinguish between metallic and electrolytic conduction. 5
- e) Define the degree of ionization. Explain the factors affecting. 5
4. Solve any **four** sub-questions.
- a) What is Nickel Silver? Write its Composition. 5
- b) Write reactions involved in back elite preparation. 5
- c) State four properties of plastics and write uses on each based properties. 5
- d) Write drawbacks of natural rubber. 5
- e) Give characteristics of insulating materials. 5

