1501

Code : 15SC03S

Register Number | | | | | | | |

I/II Semester Diploma Examination, April/May-2016

APPLIED SCIENCE

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **10** questions from Section – A, each carry **2** marks.
(ii) Answer any **10** questions from Section – B, each carry **5** marks.
(iii) Answer any **5** questions from Section – C, each carry **6** marks.

SECTION - A

1. Define unit of a Physical quantity.
2. Define pitch of a Screw.
3. State Lami's theorem.
4. Define couple.
5. Define compressibility. Write is SI unit.
6. Mention the factors affecting surface tension.
7. Write the effect of temperature on viscosity of gas.
8. Define conduction of heat.
9. State Zeroth law of thermodynamics.
10. Define periodic motion with example.
11. Write any two applications of beats.
12. Write the principle of optical fiber.
13. Write two advantages of Communication satellite.
14. Define electrolysis.
15. Define polymers.

SECTION – B

1. Write the difference between scalars and vectors. Give two examples for each.
2. Draw a net diagram of Vernier Callipers and label its parts.

3. Define cohesive and adhesive force with an example to each.
4. Define capillarity. Write any three applications of capillarity.
5. Define strain. Write the types of strain. Give e.g for each type of strain.
6. Write any five applications of Convection.
7. State Boyle's law and Charle's law. Give an ideal gas equation.
8. Explain a Stationary wave. Mention any three characteristics of stationary waves.
9. Distinguish between longitudinal and transverse waves.
10. Write any five properties of electromagnetic waves.
11. Write five advantages of nanotechnology.
12. Write any five preventive methods of corrosion.
13. Write two types of fuel cells. Give any three advantages of fuel cells.
14. Write the basic concepts of batteries. List any three applications of batteries.
15. Define : (i) minerals
    (ii) ore
    (iii) flux

SECTION – C

1. Describe an experiment to verify Lami's theorem.
2. Define viscosity of a liquid. A rectangular tank is 6 m long, 4 m wide and 3 m in height, it contains water to a depth of 2 m, the density of water is 1000 kg/m^3. Calculate the pressure, water at the bottom of the tank.
3. Explain three modes of heat transmission.
4. Describe an experiment to find the unknown frequency of the given tuning fork using sonometer by comparison method.
5. Explain various factors affecting velocity of sound in air.
6. A string of length 2 m is stretched by a force of 3200 N. If the frequency of vibration is 100 Hz, find the mass of the string.
7. Explain satellite communication system. Write four advantages of satellite communication system.
8. Write the applications of polymers.