355

Code : 15SC03S

Register Number | | | | | | | | | | |

I/II Semester Diploma Examination, March/April-2022

APPLIED SCIENCE

e : 3 Hours] [Max. Marks : 100

uctions: (i) Answer any **ten** sub-divisions from Section – **A**, each sub-division carries **two** marks.

(ii) Answer any **ten** sub-divisions from Section – **B**, each sub-division carries **five** marks.

(iii) Answer any **five** sub-divisions from Section – **C**, each sub-division carries **six** marks.

SECTION – A

(a) List supplementary units in SI system. 2

(b) Define least count of a measuring instrument. 2

(a) Define vector quantity and give its example. 1 + 1

(b) Define moment of force. 2

(a) Define elasticity. 2

(b) Define stress. 2

(c) List any two factors affecting surface tension. 2

(a) Define heat and write SI unit of heat. 1 + 1

(b) State 1st law of thermodynamics. 2

(a) Define periodic motion with example. 1 + 1

(b) Define resonance. 2

(a) Define Nanotechnology. 2

(b) Write the principle of optical fibre. 2

(a) Define Electrolysis. 2

(b) Define Minerals. 2

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SECTION – B

8. (a) Draw a neat diagram of screw gauge and label its parts.
   (b) What are like and unlike parallel forces. Draw these line diagram. 2½ +

9. (a) Define strain. Write the three types of strain.
   (b) Define capillarity. Write any three application of capillarity.
   (c) State Hooke's law. List any three applications of viscosity.

10. (a) Define conduction and convection with example. 2½ +
    (b) State Boyle's law and Charle's law. 2½ +

11. (a) Distinguish between transverse waves and longitudinal waves.
    (b) Derive an expression for displacement of a particle in SHM. 2 +

12. (a) Write any five properties of electromagnetic waves.
    (b) Write any three advantages and two disadvantages of satellite communicatio

13. (a) Define corrosion. Write three preventive methods of corrosion.
    (b) State Faraday's 1st and 2nd Law of electrolysis. 2½ +

14. (a) Write any five applications of polymers.
    (b) Define pH of a solution. Write any three applications of pH.

SECTION – C

15. (a) Describe an experiment to verify Lami's theorem. 1 + 2
    (b) Define liquid pressure. Derive an expression for pressure at any point insid liquid. 2 + 1

16. (a) Volume of gas is 1.25 CC at 15 °C and 755 mm of mercury pressure. Calc volume of gas at NTP. 1 + 2
    (b) Define stationary waves and write any four characteristics of stationary wa

17. (a) Describe an experiment to determine frequency of tuning fork by comp method using sonometer. 1 +
    (b) Define wave length. Obtain the relation between v, n and λ.

8. (a) Expand LASER. Write any four applications of laser.
   (b) Write any six postulates of Arrhenius theory of electrolytic dissociation.