

**1453****Code : 15SC03S***Register  
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**I/II Semester Diploma Examination, April/May-2018****APPLIED SCIENCE****Time : 3 Hours ]****[ Max. Marks : 100**

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

**SECTION – A**

1. Define unit of a physical quantity. 2
2. Write principle of Vernier Calipers. 2
3. Define Resultant Force. 2
4. State law of triangle of forces. 2
5. Define thrust of a liquid. 2
6. Define deforming force. 2
7. List any two applications of viscosity. 2
8. Define specific heat of a substance. 2
9. State Boyle's law. 2
10. Define frequency. Write relation between frequency and time period. 2
11. Define longitudinal waves. 2
12. Define Electromagnetic waves. 2

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| 13. Write any two applications of Gamma-rays. | 2 |
| 14. Define Electrolysis.                      | 2 |
| 15. Define Saturated solutions.               | 2 |

### SECTION – B

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| 16. List seven basic S.I units with their physical quantities.                                     | 5 |
| 17. Draw neat diagram of Vernier callipers and name its parts.                                     | 5 |
| 18. Explain three module of elasticity.  | 5 |
| 19. State and explain Bernoulli's Theorem.   | 5 |
| 20. Distinguish between stream line flow and turbulent flow of liquids.                            | 5 |
| 21. Define conduction and Radiation, write any two applications for each.                          | 5 |
| 22. State Charle's Law and Gay-Lusac's Law. Write perfect gas equation.                            | 5 |
| 23. Define S.H.M. and derive $y = a \sin \omega t$ .   | 5 |
| 24. Explain formation of stationary waves and write any three characteristics of stationary waves. | 5 |
| 25. Expand LASER. Write any three applications of LASER.   | 5 |
| 26. Write the principle of optical fibre and give any four applications.                           | 5 |
| 27. Define Composite materials. Write any three advantages of composite materials.                 | 5 |
| 28. Give the postulates of Arrhenius theory of electrolytic dissociation.                          | 5 |
| 29. Define pH of a solution and give any three applications.                                       | 5 |
| 30. Define polymers. Write any three applications of polymers.                                     | 5 |