

B.Sc. (F. & S.) Sem.-1 (Supple.) Examination**CC-101****Applied Physics****October-2024****[Max. Marks : 70]****Time : 2-30 Hours]**

Q-1 [A]Briefly explain the (1) Solar year (2) Solar day (3) Sidereal day (4) Tropical year (5) Lunar month. **7**

[B]What is vector Quantity? Explain the law of Vector addition and Multiplication with figure. **7**

OR

[A]What is Dimensional analysis? Write down the Practical norms for the use of SI system. **7**

[B]What is fluid? Briefly explain the (1) Ideal fluid (2) Real fluid (3) Newtonian fluid (4) Non-Newtonian fluid (5) Ideal plastic fluid with figure **7**

Q-2 [A]What is Surface Tension (T)? Briefly explain the Surface Energy with excess pressure inside a liquid drop, soap bubble and air bubble. **7**

[B]What is Angle of Contact? Briefly explain the Angle of Contact with figure. **7**

OR

[A]What is Pascal's law? Briefly explain the Buoyancy and Archimedes' principle. **7**

[B]What is Fluid? Briefly explain the (1) Stream line (2) Tube of flow (3) Turbulent flow (4) Laminar flow. **7**

Q-3 [A]Explain the Carnot engine and Carnot cycle with figure. **7**

[B]Explain. (1) Boyle's law (2) Charles's law (3) Gay-Lussac's law **7**

OR

[A]What is Thermodynamics? Briefly explain the Zeroth, First and Second law of Thermodynamics with figure. **7**

[B]What is Internal and External Combustion Engine? Briefly explain the Heat Engine. **7**

Q-4 [A]Explain the "THE MODERN COOLIDGE TUBE" and write down the advantages of it. **7**

[B]Write down the properties of gamma rays. **7**

OR

[A]Write down the uses of X-ray. **7**

[B]Explain THE GAS FILLED TUBE with principle and construction. **7**

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Q.7 Attempt any seven out of twelve (Each of 2 Marks) :

- 1) What is Light year?
 - 2) 1 barn = -----?
 - 3) 1 angstrom = -----?
 - 4) Write down the difference between Viscous force and Solid friction.
 - 5) What is Entropy?
 - 6) Write down the unit of Specific heat of a gas?
 - 7) Write down the example of Adhesive force.
 - 8) What is Adiabatic process?
 - 9) 1 femto =
 - 10) What is scalar quantity?
 - 11) What is stream line
 - 12) What is irreversible process?
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