

This question paper contains 4 printed pages]

Your Roll No.....

5705

**B.Sc. (Hons.) PHYSICS/I Sem. B**

Paper-PHHP

Physics-Lab I

(Admission of 2010 and onwards)

Time : 1 Hour

Maximum Marks : 20

(Write your Roll No. on the top immediately on receipt of this question paper.)

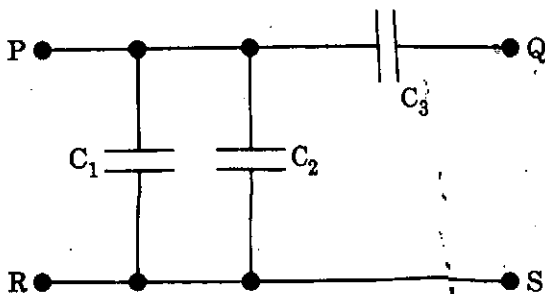
Attempt any 20 questions.

All questions carry equal marks.

1. Write the colour code of a resistance of  $1 \Omega$  with 5% tolerance.
2. What is the resistance of an ideal capacitor ?
3. What is the use of time base in CRO ?

P.T.O.

4. The peak to peak voltage as measured by a CRO is 210 V. What would be its corresponding value on the multimeter ?
5. Define systematic errors.
6. What is the Gaussian law of distribution of random errors ?
7. On which principle is the working of Sextant based ?
8. Mention *two* uses of sextant.
9. Give the graphical representation of charging and discharging of a condensor in a series RC circuit with time.
10. What is the net capacitance for the given combination of capacitors between terminals R and Q ?



11. How does the value of 'g' vary from equator to poles ?
12. How is 'g' related to 'G' ?
13. On what factors does the Moment of Inertia of a body depend upon ?
14. What are geostationary satellites ?
15. What would happen to the liquid flow if a capillary tube of a larger bore is used in Poiseuille's experiment ?
16. Define 1 poise.
17. Which is more elastic—stainless steel or rubber ?
18. Why is it preferable to use a long thin wire for suspending Maxwell's needle ?
19. Write the dimensions of co-efficient of viscosity of liquid.
20. If the radius of the wire is doubled in Maxwell's needle experiment, how will the value of Modulus of rigidity  $\eta$  change ?

21. Why do we use heavy bars (rather than light ones) in Searle's experiment ? Justify.
22. Define Poisson's ratio.
23. What is meant by shear strain ?
24. In a Travelling Microscope if one MSD is 0.5 mm and there are 50 VSD coinciding with 49 MSD. Determine its least count.
25. What causes the rotational motion of the flywheel after the mass falls ?