

FACULTY OF SCIENCE

B.Sc. I Year (Practical) Examination

Subject : PHYSICS

Paper – I

QUESTION BANK

W.E.F. Annual 2009

Time : 3 Hours}

{Max. Marks: 50

Note : Candidate may be asked to strike of any one question (Among the allotted 8 experiments for the batch which he does not want to attempt). Any one from the remaining may be allotted to the candidate :

1. Estimate the time period of simple pendulum using the theory of errors and calculate 'g' value.
2. Determine the moment of inertial of a 'Fly wheel'.
3. Determine the surface tension of water using Capillary rise method.
4. Determine the coefficient of viscosity of water by studying the flow through a capillary tube.
5. Determine 'Y' by uniform bending method.
6. Determine 'g' and 'k' using a compound pendulum.
7. Verify the perpendicular axes theorem using Bifilar pendulum.
8. Estimate the unknown frequency of the given tuning fork by volume resonator method, using the known frequency values of three tuning forks.
9. Using a Sonometer, determine the speed of waves on a stretched string.
10. Determine the coefficient of viscosity of a given liquid using Searle's viscometer.
11. Determine the Young's modulus of a spiral spring.
12. Study the damping of an oscillating disc in air and water using Logarithmic decrement method.
13. Determine 'Y' of a given material using non-uniform bending.
14. Determine the rigidity modulus of a spring by studying the oscillations of mass attached.
15. Using Bifiler pendulum method, determine the moment of inertia of given body about three perpendicular axes.
16. Find Poissons ratio of the material of the given spiral spring.
17. Verify the laws of stretched string using sonometer.

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18. Using compound pendulum determine the 'g' value.
19. Determine the frequency of a.c. using Melde's experiment.
20. Determine the rigidity modulus of the material of the given wire using torsional pendulum.
21. Find the frequency of a given signal by observing Lissajous figures using CRO.
22. Determine the coefficient of viscosity of water by Poiseuille's method.
23. Find the equivalent length of the simple pendulum of a given compound pendulum.
24. Estimate the error in time period of a simple pendulum by drawing a Gaussian distribution curve.
25. Determine the frequency of electrically maintained tuning fork for transverse mode.
26. Determine the frequency of electrically maintained tuning fork for longitudinal mode.
27. Verify the formula $V = (n + e) \lambda$ using volume resonator.
28. Determine the end-correction of the resonating air column.
29. Determine the surface tension of the given liquid using capillary rise method.
30. Determine the moment of inertia of a given fly wheel and verify it with the theoretical value.
