B.E (Full Time) DEGREE END SEMESTER EXAMINATIONS, MAY/JUN 2012
PRINTING TECHNOLOGY BRANCH
SECOND SEMESTER
PH 9166 PHYSICS FOR PRINTING TECHNOLOGY

Time: 3 hours Max Marks: 100

PART A (10x2=20)

Answer all questions

1. Write short notes on effect of temperature on surface tension?
2. Write Short notes on surface tension of a liquid and give any five examples?
3. What are the properties of UV durable inks?
4. Write short notes on thermal DOD?
5. Compare phase change recording and Magneto optic recording?
6. Compare holographic and photographic storage?
7. Write short notes on cathode luminescence?
8. Define photodetector and write the advantages and types of photodetectors?
9. Define Huygens principle?
10. What is fraunhofer and Fresnel diffraction?

PART A (5x16=80)
Answer all questions

11. With a neat diagram explain Abbe-Porter experiment and derive wave and Helmholtz equation in time and frequency domain?

12. Derive Poiseuille's formula for flow of liquid through capillary tube and derive the expression for pressure correction?

OR

State stokes law and applies it to derive an expression for terminal velocity of a sphere falling through a fluid and explain the terms laminar flow, turbulent flow and critical velocity and how will you determine critical velocity

(P.T.O)

13. Explain why the pressure on the concave side of a liquid surface is greater than its convex side. Derive an Expression for the excess pressure inside the spherical soap bubble of radius r?

OR

Explain how will you determine the surface tension of liquid using jaeger's method and also explain the temperature effect due to surface tension?

14. Explain the four main parameters of the magnetic material and write how the data is read, written and stored in magnetic data storage?

OR

In magneto optical data storage explain the following

i) Recording, Reading and Erasure process?

ii) Automatic focussing and automatic track following?

15. Explain in detail about for electro optic modulator and derive an expression?

OR

Explain in detail about action and characteristics of liquid crystal materials?