C. ABDUL HAKEEM COLLEGE (AUTONOMOUS),
MELVISHARAM - 632 509.
SEMESTER EXAMINATIONS, NOVEMBER - 2018

B.Sc., MATHEMATICS & CHEMISTRY **SEMESTER I**

U15APH101 / U14APH101 – PHYSICS - I (ALLIED)

Time: Three Hours Maximum: 60 Marks

SECTION - A (10 X 1 = 10 Marks)

Answer **ALL** Questions.

1. State Poisson's ration.
2. What is synclatic system?
3. Define coefficient of thermal conductivity.
4. What are superconductors?
5. Give the principle of potentiometer.
6. State Coulomb's inverse square law.
7. How is loudness of sound related to intensity of the sound wave?
8. What is piezoelectric effect?
9. Distinguish between Fresnel & Fraunhofer diffraction.
10. Define: acceptance angle.

SECTION - B (5 X 4 = 20 Marks)

Answer **ALL** Questions.

11. a) Obtain the relation between Poisson's ratio and moduli of elasticity.

(Or)

b) Describe drop weight method for determining the surface tension of liquid.

12. a) State and explain Meissner effect of superconductor Material.

(Or)

b) Explain Newton's law of cooling.

13. a) Calibrate an Ammeter by using potentiometer.

(Or)

b) Discuss the function of magnetometer.

14. a) Explain Sonogram with a neat sketch.

(Or)

b) Write an essay on the factors affecting architectural acoustics. Give its remedies.

15. a) How are fibers classified?

(Or)

b) Write a short note on air wedge.

SECTION - C (3 X10 = 30 Marks)

Answer **ANY THREE** Questions.

16. Derive poiseuill's formula for the flow of a liquid through a capillary tube.
17. Explain Super Conductor Quantum Interference Device in detail.
18. Find the loss of energy of two capacitors when they have shared their charge?
19. State and explain Sabine's formula for reverberation time of a hall.
20. Explain with a neat block diagram, the working of fiber optical communication system.

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