D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1
SEMESTER EXAMINATIONS
NOVEMBER - 2016   15CAPH1A
ALLIED: PHYSICS - I

****

Time: 3 Hrs   **Max.Marks: 75**

SECTION-A (10 x 2 =20)

Answer ALL the questions.

1. Sketch the Hook's law in a graphical form.

2. What is the principle of Atomic force Microscopy?

3. Define specific heat capacity and give its unit.

4. What is Lamda point?

5. What is transient current?

6. What is the principle of a potentiometer?

7. What is Reverberation time?

8. Define piezo - electric effect.

9. Define spherical aberration.

10. What are coherent sources?

SECTION-B (5 x 5 =25)

Answer any FIVE of the following questions.

11. Write short notes on I- shape girder and mention its important applications.

12. Describe how the hydrogen can be liquefied.

13. Explain the principle behind the determination of high resistance by leakage.

14. Explain how you would measure the frequency of the current that is flowing in your lab.

15. Discuss the different ways of minimizing the spherical aberration in lenses.

16. Explain how the flatness of a lens can be tested.

17. Mention the important properties of Helium II and its applications.

18. What is optical activity? What are the important applications of a polarized light?

SECTION-C (3 x 10 =30)

Answer ALL the questions.

19. (a) Arrive an expression for determining the Young's modulus of material of a beam by making a depression at its centre.

(Or)

(b) Explain how the specific heat capacity of a liquid can be determined by Newton's law of coding method.

20. (a) Describe the growth and decay of current in a circuit containing inductance and resistance.

(Or)

(b) Explain how the sound waves can be produced by piezo- electric method.

21. (a) Describe the method of determination of wavelengths of different colours present in the mercury spectrum by keeping the grating in the normal incidence position to the incident light.

(Or)

(b) Discuss how the internal resistance of a cell can be measured using potentiometer.

* * * * * * *