2112E075

**BACHELOR OF VOCATION**
**Subject: Applied Physics**
**Subject Code: PHY-601**
**Semester: Third**
**December 2021**
**Theory (External): 35 Marks**
**Time: 03 Hours**

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**Instructions to the Students**

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

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**SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)**
**(10x1=10 Marks)**

A. What is error management?

B. How can corrosion be prevented in a resistance thermometer?

C. Define Specific weight and Specific Gravity.

D. Briefly define Simple and Compound machines with example?

E. Why is Laser light used in Fiber optics?

F. Explain Photoconductivity.

G. Explain Load and Effort.

H. State Hooke's Law.

I. Explain what is Acceptance angle and Acceptance cone?

J. What does Numerical Aperture signify?

**SECTION –B (ESSAY TYPE QUESTIONS)**
**(5x5=25 Marks)**

1. Explain in detail what is thermoelectric temperature measurement? Explain what is the working principle of Resistance thermometer?
2. Explain Pascal's law. Give the definition and explain what atmospheric pressure is and gauge pressure?
3. What is the law of machines? Give the mechanical advantage and efficiency of a machine and their relationship.
4. Explain Ruby laser in detail. Give the characteristics and applications of lasers.
5. Explain the working of a solar cell? How much voltage does a solar cell produce?
6. Explain the working principle and application of simple screw jack and worm & worm wheel.
7. What is thermal conductivity? Which material has the highest value of thermal conductivity? What is K in thermal conductivity?
8. How does nanotechnology affect our daily life? Briefly explain about nano materials.

===END OF PAPER===