BACHELOR OF VOCATION
Tool and Die Manufacturing
Subject: Applied Physics
Subject Code: ZBSC-103
Semester: First
January 2021
Theory (External): 35 Marks
Time: 03 Hours

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

Roll Number

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

A. What is a solar cell?

B. Explain what do you mean by surface tension.

C. Define Load.

D. Explain Acceptance angle and Acceptance cone?

E. Explain what are self-locking machines?

F. State the Principle of optical fibre?

G. What is Numerical Aperture?

H. Define Photoconductivity.

I. In the current scenario where can nanotechnology be applied?

J. State Hooke's law.

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

1. Explain the basic principle of a thermoelectric thermometer. What is Resistance thermometry?

2. Define and explain the types of stress and strain?

3. Explain Pascal's law. What is the difference between Laminar and turbulent flow?

4. Explain the working principle and application of simple screw jack and worm and worm wheel?

5. Explain about spontaneous and stimulated emission of radiation. Explain the characteristics of lasers.

6. Explain in detail what is a photovoltaic cell? How does a photovoltaic cell work? Briefly explain solar cell characteristics.

7. Explain what is thermal conductivity? Give the various modes of heat transfer with example.

8. Define the following Fluid properties – specific weight and gauge pressure.

===END OF PAPER===