

BACHELOR OF VOCATION
Automotive Manufacturing
Automotive Mechatronics
Subject: Applied Physics
Subject Code: ZBSC-103
Semester: Second
October 2020
Theory (External): 35 Marks
Time: 03 Hours

INSTRUCTIONS TO THE STUDENTS

1. Read the questions carefully and write the answers in the answer sheets.
2. Wherever necessary, the diagram drawn should be neat and properly labelled.
3. This questions paper comprises of 8 questions out of which student need to attempt any 4 questions.
4. All questions carry equal marks.
5. The time allotted will be 3 hours for examinations including time of downloading of question paper to emailing of answer books to the concerned Dean/IC.

ESSAY TYPE QUESTIONS

1. (a) How do thermocouples measure temperature?
(b) What are the modes of heat transfer differentiate them?
2. (a) Explain resistance thermometer? How does a resistance thermometer work?
(b) Explain Hooke's law.
3. Explain laminar flow. What causes laminar flow? What is an advantage of turbulent flow?
4. (a) Explain types of optical fibers on the basis of refractive index.
(b) What are the characteristics of lasers? Explain two in details.
5. (a) Explain solar cell with schematic diagram.
(b) What are nano materials? What are applications?
6. Explain the working principle and application of simple worm wheel.
7. Define Photoconductive Cell with diagram and its characteristics.
8. Explain construction and working of Ruby Laser with schematic diagram and energy level diagram.

*******END OF PAPER*******