

265

2112E125
BACHELOR OF VOCATION (Mech. Manuf.)
Subject: Measurement and Metrology
Subject Code: ME-503
Semester: First
December 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 are the basic units of the measurements?
- B. What do you understand from error?
- C. What is accuracy?
- D. What is calibration?
- E. What is difference between pressure and stress?
- F. What is the difference between mass and weight?
- G. What do you understand from pitch?
- H. What is spur gear?
- I. What is surface microscopy?
- J. What do you understand from Interferometry?

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

1. What is the need of inspection? How it is carried out in real time?
What is its impact on product development?

- (5)
2. What are systematic and random errors? What are the sources of these errors? How these types of errors can be avoided?
 3. What is micro-meter? Explain its construction and working with suitable diagrams.
 4. What is procedure used to measure taper and radius? What are the different instruments used for this kind of measurements? Discuss with suitable data and diagrams.
 5. What are the different types of gears used in industries? Explain their construction and working with suitable diagrams.
 6. What is temperature? What are the different instruments used to measure temperature? Discuss their benefits and limitations.
 7. What is computer aided tolerancing? Discuss its main features.
 8. What are the main factors affecting surface roughness? What is surface microscopy?

==END OF PAPER==