BACHELOR OF VOCATION
Automotive Component Manufacturing
Subject: Computer Integrated Manufacturing Systems
Subject Code: LBME-309
Semester: Sixth
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. Describe the need for CIM and the issues addressed by CIM.

B. How does IT facilitate concurrent engineering?

C. How does PLM help in outsourcing?

D. Compare the functionalities of an operating system and an operating environment.

E. What do you understand by group technology? List its benefits.

F. What is the need for CAD based process plans?

G. What is generative process planning?

H. How do you specify a robot?

I. Define the work envelope of a robot.

J. What do you understand by robot accuracy?

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

1. What are the main elements of CIM systems? Discuss how CIM can act as an enabling technology for concurrent engineering.

2. Classify a component using either OPITZ or MICLASS system.
3. What is the significance of capacity requirements planning in the context of globalization and outsourcing?
4. Explain the rank order clustering method with example.
5. What are the different types of drives used in robots? Also explain the different types of control systems used in robots?
6. Sketch the layout of a typical FMS and explain the important subsystems.
7. Discuss the importance of materials handling system and material handling devices used in FMS.
8. Explain the following
    a) robot part programming
    b) vehicle guidance technology.

===END OF PAPER===