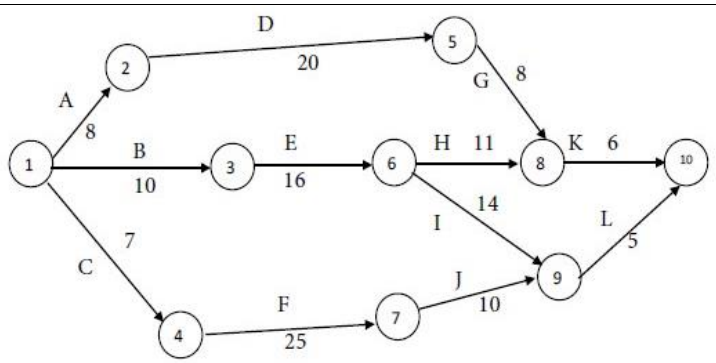
Name: **Enrolment No:**	

UPES Dehradun
End Semester Examination, Dec 2024

Course: Manufacturing Technology **Semester: V**
Program: B.Tech (Mechanical Engineering) **Time : 03 hrs.**
Course Code: MEPD3010 **Max. Marks: 100**

SECTION A
(5Qx4M=20Marks)

S. No.	Statement of question	Marks	CO
Q 1	Explain pressure Die Casting process with its industrial applications.	**4**	**CO1**
Q 2	Define minimum metal condition and maximum metal condition.	**4**	**CO1**
Q 3	Compare plain plug gauges and snap gauges	**4**	**CO4**
Q 4	Summarize manufacturing system and its various componenets.	**4**	**CO1**
Q 5	Analyze the working principle of snap gauge and plug gauge.	**4**	**CO4**
	SECTION B **(4Qx10M= 40 Marks)**		
Q 6	Explain the principle of vernier instruments. Discuss the working of vernier height gauge.	**10**	**CO2**
Q 7	Classify various types of gear tooth errors. Also discuss the process of measuring tooth errors.	**10**	**CO4**
Q8	Summarize the critical path method. What are the different steps in CPM.	**10**	**CO3**
Q9	Solve the problem where the main scale in a vernier instrument is graduated in millimetres, with the smallest division being 1mm. Ten divisions on the vernier scale correspond to nine divisions on the main scale. Answer the following questions: (a) Is the vernier scale a forward vernier or a backward vernier? (b) What is the least count of the instrument? (c) If the main scale reads 13mm and the fifth division on the vernier scale coincides with a division on the main scale, what is the value of the dimension being measured?	**10**	**CO4**
	SECTION-C **(2Qx20M=40 Marks)**		
Q10	Interpret the completion time and the critical activities for the following project:	**20**	**CO2**

			
Q11	Categorize various types of sands used in the casting process. OR Identify the working principle of laser beam machining with neat diagram. How it is different than electron beam machining.	**20**	**CO3**