Name: **Enrolment No:**	

UPES

End Semester Examination, May 2023

Course: Workshop Practices **Semester: II**

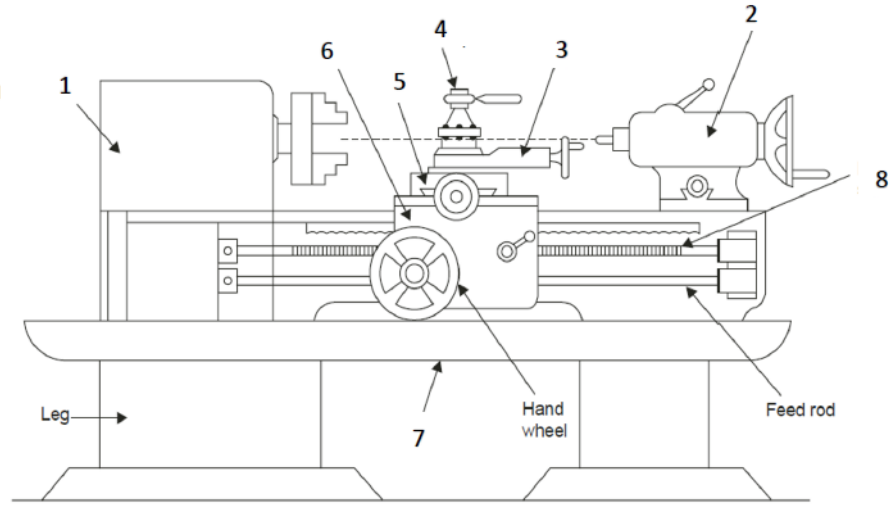
Program: B.Tech – ADE, ASE, Mech, MEX, ECE, Elec. & Comp. Engg. Sustainability, Food Tech. Bio Tech. **Time: 03 hrs.**

Course Code: MEPD1003 **Max. Marks: 100**

Instructions: Q 7 and Q 10 have internal choice.

SECTION A
(5Qx4M = 20 Marks)

S. No.		Marks	CO
Q 1	Identify the tools shown below:  (a)  (b)  (c)  (d)	**4**	**CO2**
Q 2	Briefly discuss two methods for seasoning of timber.	**4**	**CO1**
Q 3	Explain the processes of nibbling and lancing as applicable to sheet metal working.	**4**	**CO1**
Q 4	Briefly discuss four advantages of hot working process.	**4**	**CO1**
Q 5	Enlist and briefly explain the components of the gating system of a sand-casting process.	**4**	**CO1**
	SECTION B **(4Qx10M = 40 Marks)**		
Q 6	a) Explain four properties of moulding sand.	**4+6**	**CO1**

	b) Explain different pattern allowances with necessary sketches if applicable.		
Q 7	Explain the process of EDM (Electrical Discharge Machining) with a schematic diagram. Enlist three advantages and three disadvantages of the process. OR Explain the process of LBM (Laser Beam Machining) with a neat sketch. Discuss its applications and advantages.	**7+3**	**CO4**
Q 8	Explain the process of drawing with a schematic diagram. Explain how this process can be used to make seamless tubes.	**5+5**	**CO1**
Q 9	a) Name and explain different types of fits. b) Tolerances for a hole and shaft assembly having a nominal size of 50 mm are as follows: $Hole = 50^{+0.02}_{+0.00}\ mm$ $Shaft = 50^{-0.05}_{-0.08}\ mm$ Determine the allowances, tolerances and deviations. Determine the type of fit.	**3+7**	**CO1**
SECTION-C (2Qx20M = 40 Marks)			
Q 10	a) Describe the different types of electric resistance welding with the help of neat sketches. b) Describe the advantages and disadvantages of welded joints over other joints. c) Mention the reasons of coating provided on electrodes. Mention the composition of flux used for coating the electrodes in EAW. **OR** a) Explain the process of TIG welding with a neat sketch. Explain the advantages of using inert gas for shielding over flux in TIG welding. b) Explain six different types of defects that may occur in welding. c) Discuss the different types of flames used in gas welding process.	**8+6+6**	**CO2 CO1**
Q 11	a) Label the various parts (1-8) of lathe machine as shown in the figure below:  b) Explain the different types of feeds used on a lathe machine. c) Explain briefly the working of a 3D printer. Enlist three advantages of 3D printers over traditional machining processes.	**8+6+6**	**CO2 CO4**