

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Online End Semester Examination, December 2020

Programme Name: B.Tech Mechanical Engineering

Semester : V

Course Name : Manufacturing Processes

Time : 03 hrs

Course Code : MEPD 3011

Max. Marks : 100

Nos. of page(s) : 2

SECTION A

Answer all questions

S. No.		Marks	CO
Q 1	a) Enlist the types of chips formed in metal cutting. b) List out the conditions for formation of built up edge	5	CO-1
Q 2	Compare Advanced and conventional machining processes	5	CO-1
Q 3	a) For making the cylindrical cup of 30mm diameter and 50 mm height by deep drawing process, diameter of blank required will bemm b) For punching the 80 mm hole in the mild steel sheet of thickness 2mm (shear strength = 100MPa), diameter of the punch and die will bemm andmm respectively	5	CO-2
Q 4	Explain the effect of following parameters on the penetration and metal deposition rate in arc welding process. a) Polarity b) current	5	CO-3
Q-5	Compare top and bottom gating system.	5	CO-1
Q-6	Explain the effect of positive, zero and negative rake angle on the cutting forces.	5	CO3

SECTION B

Answer below questions.

Q 7	Explain the working principle of electro chemical machining. Derive the expression for MRR in electro chemical machining process OR Explain the working principle of electro discharge machining. Derive the expression for pulse on and pulse off time in case of R-C relaxation generator in EDM.	10	CO1
Q 8	a) Explain the Cain's principle of riser design in the metal casting. b) Explain the effect of type of gating system on the pouring time in metal casting process	10	CO3
Q 9	Differentiate between compound and progressive die with the help of neat sketch. A	10	CO2

