

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2020

Programme: B. Tech-ADE	Semester : V
Course Name: Metrology & Manufacturing Technology	Max. Marks : 100
Course Code: MEPD 2001	Max. Time : 03 Hours.

SECTION A (30 Marks)

1. All questions are compulsory in this section.
2. Total 06 questions are there in this section and each question is of 5 Marks.
3. Short answer type questions.
4. Assume any missing data if required.

Q1	Illustrate the Torque measurement with the help of LVDT.	5	CO1
Q2	Describe the wavelength standard in terms of length measurement.	5	CO1
Q3	Discuss the Taylor's principal of gauge design.	5	CO2
Q4	Differentiate the transition and interference fits with suitable examples.	5	CO2
Q5	Describes any five casting defects and method of rectification.	5	CO3
Q6	Describe the Wringing of Slip Gauges. Build the dimension 49.3835 mm using M-87 set.	5	CO2

SECTION B (50 Marks)

1. All questions are compulsory in this section.
2. Total 05 questions are there in this section and each question is of 10 Marks.
3. Write brief notes.
4. Assume any missing data if required.

Q7	Discuss the pneumatic & optical comparator and state the advantages and disadvantages.	10	CO1
Q8	Illustrate the construction and working of bourdon tube pressure gauge with neat sketch.	10	CO1
Q9	Explain the Investment casting process with neat sketch. Also state the advantages & disadvantages	10	CO3
Q10	Explain in brief about the various types of Contactless Electrical Tachometer. Describe the working of stroboscope with a neat sketch.	10	CO3
Q11	Describes the two metal forming processes and state the defects associated with the forming processes.	10	CO4

SECTION C (20 Marks)

1. Please solve one question out of two.
2. Write long answers.
3. Assume any missing data if required.

Q12	<p>a) Discuss the mechanism of chip formation. Also, analyze the continuous chips with built up edges.</p> <p>b) Explain the tool geometry of a single point cutting tool with a neat sketch.</p> <p style="text-align: center;">OR</p> <p>Explain the following terms</p> <ul style="list-style-type: none">a) Speed, Feed & Depth of Cutb) Milling operationc) Chip thickness ratio & shear Angled) Compare orthogonal & oblique cutting	20	CO4
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