UNIVERSITY OF PUNE
[4363]-30
T. E. (Production/ Prod SW),
Examination-2013
Manufacturing Processes II
(2003 Course)

[Total No. of Questions : 12] **[Total No. of Printed Pages :2]**
[Time: 3 Hours] **[Max. Marks: 100]**

(1) Answer any three question from each section.
*(2) Answers to the **two sections** should be written in **separate answer-books**.*
(3) Neat diagram must be drawn wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.

SECTION-I

Q1.

a) Explain with neat sketch Metal Inert Gas welding process and write advantages of it? [8]
b) Discuss Indian standard marking system for welding electrodes [8]

OR

Q2.

a) Explain stud welding method with sketches [8]
b) Write role of flux and filler metal in the welding? [8]

Q3.

a) Explain various types of flames produces in gas welding? [8]
b) Discuss upset welding process in detail? [8]

OR

Q4.

a) Compare gas cutting flame with welding flame [8]
b) Explain seam welding processes? [8]

Q5.

a) Explain any one solid state welding process [10]

b) Write short notes on 'braze welding' [8]

OR

Q6.

a) Compare soldering, welding and brazing? [10]

b) Explain various types of solders? [8]

SECTION-II

Q7.

a) Explain relationship between riser and directional solidification [8]

b) Compare Pressurized gating system and Unpressurized gating system [8]

OR

Q8.

a) Explain with sketch gating system? [8]

b) What is gating ratio? Explain in detail [8]

Q9.

a) What is gear shaving? [8]

b) Explain the gear hobbing methods? [8]

OR

Q10.

a) What is the gear shaping? Explain in detail? [8]

b) Discuss the gear generating and gear cutting processes? [8]

Q11.

a) Explain with neat sketch Abrasive Jet Machining in detail? [10]

b) Discuss ECM? [8]

OR

Q12.

a) Explain Ultrasonic Machining Process with its application? [10]

b) Discuss laser beam machining? [8]

[Total No. of Questions: 8] **[Total No. of Printed Pages: 2]**

UNIVERSITY OF PUNE
[4363]-31
T.E. (Production) [2003 Pattern]
Examination-2013
Subject: Metrology Quality Control

[Time: 3 Hours] **[Max. Marks: 100]**

Instructions:

1 *Answer three questions from Section I and three questions from section II.*

2 *Neat diagrams must be drawn wherever necessary*

SECTION –I

Q.1 a) State the Abbes principle of alignment and explain the term sine and cosine error with suitable example. [8]

b) Explain slip gauges with its manufacturing process, use and applications of it. [8]

Q.2 a) What are the various instruments used for angular measurements and explain any one in brief. [8]

b) Describe a gear tooth venier and base tangent comparator for gear measurement [8]

Q.3 a) Design workshop type Go-NOGO gauge for inspection of $50H_8f_7$ hole and shaft [10]
IT8=25i
IT7=16i
$F.d=-5.5D^{0.41}$

b) Explain how interterence bands are formed while using optical flats. [6]

Q.4 Explain with neat sketch [18]
i) Gear tooth vernier coliper
ii) Floating carriage diameter measuring m\c
iii) Sigma comparator

SECTION-II

Q.5	a)	Explain Quality circle with working characteristics and objectives	[8]
	b)	What are the types of cost of quality? Explain relation between cost of quality and value of quality with graph.	[8]
Q.6		Explain the product development can be a) Improved by using QFD b) Explain Quality Assurance	[8] [8]
Q.7	a)	Explain the following i) Six sigma ii) FMECA iii) Characteristics of OC curve	[16]
Q. 8		Write a short note on (Any three) i) ISO 1400 ii) mean, mode, standard deviation iii) Quality Audit iv) TQM	[18]