Total No. of Questions: 6 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Engineering

End Sem (Odd) Examination Dec-2017

ME2CO01 Manufacturing Processes

Programme: Diploma Branch/Specialisation: ME

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i. Good surface finish and better dimensional accuracy can be achieved in **1**
(a) Cold working process (b) Hot working process
(c) Both (a) and (b) (d) None of these

ii. Mechanical working processes are performed on metals **1**
(a) To achieve optimum mechanical properties in the metal
(b) To improve the mechanical strength of the metal
(c) To make the metal dense
(d) All of these

iii. The vertical passage for bringing molten metal to mould cavity is called **1**
(a) Gate (b) Rise (c) Sprue (d) Runner

iv. Wax pattern is used in **1**
(a) Shell moulding (b) Die casting
(c) Investment Casting (d) Centrifugal casting

v. The following acts as driving shaft in Lathe. **1**
(a) Countershaft (b) Spindle shaft
(c) Lead screw (d) None of these

vi. The surface of the single point cutting tool on which the chips formed in cutting operation slide is called as **1**
(a) Flank (b) Heel (c) Face (d) Shank

vii. The term applied to the first operation in an impression die forging is called **1**
(a) Fullering (b) Blocking (c) Trimming (d) Coining

viii. Wires are made by **1**
(a) Spinning (b) Drawing (c) Embossing (d) Bending

P.T.O.

ix. The current value in the arc welding is decided by **1**
(a) Plate Thickness (b) Speed of Travel
(c) Electrode size (d) Welded length

x. The ratio between oxygen and acetylene gases for neutral flame in gas welding is **1**
(a) 2:1 (b) 1:2 (c) 1:1 (d) 4:1

Q.2 i. What do you mean by Foundry? **2**
ii. Explain in short the principle used in press working. **3**
iii. Describe the mechanism of bending related to press working. **5**
OR iv. Write the names of various metal joining processes and explain any one in detail. **5**

Q.3 i. Define Casting. Why it is preferred over other methods? **2**
ii. Explain briefly following casting process **8**
(a) Centrifugal casting (b) Die Casting
OR iii. Describe with neat sketch working of Cupola Furnace. **8**

Q.4 i. What is the function of Machine tool? **3**
ii. List and explain common lathe operations which can be carried out on a Lathe. **7**
OR iii. What do you mean by tool signature? Explain briefly. **7**

Q.5 Attempt any two:
i. Briefly explain principle of rolling process with neat sketch. **5**
ii. Explain briefly various defects in Forging **5**
iii. Explain with neat sketch “wire drawing process” **5**

Q.6 Attempt any two:
i. What is the principle of Arc Welding? Differentiate between AC arc welding and DC arc welding **5**
ii. What is the importance of coating in any welding electrode? Write down the difference between TIG and MIG Welding process. **5**
iii. Explain seam resistance welding with neat sketch. **5**

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Marking Scheme

Q.1	i.	(b) Cold working Process	**1**
	ii.	(d) All of these	**1**
	iii.	(c) Sprue	**1**
	iv.	(c) Investment Casting	**1**
	v.	(a) Countershaft	**1**
	vi.	(c) Face	**1**
	vii.	(a) Fullering	**1**
	viii.	(b) Drawing	**1**
	ix.	(c) Electrode size	**1**
	x.	(c) 1:1	**1**
Q.2	i.	2 marks for explanation	**2**
	ii.	3 marks for principle used in press working	**3**
	iii.	5 marks for mechanism of bending related to press working.	**5**
OR	iv.	2 marks for names of various metal joining 3 marks for process & explanation	**5**
Q.3	i.	1 mark for Def and 1 mark for why it is preferred.	**2**
	ii.	4 marks for explanation of Centrifugal casting and 4 marks for Die Casting	**8**
OR	iii.	4 marks for diagram of cupola furnace and 4 for theory	**8**
Q.4	i.	1 mark for each function.	**3**
	ii.	Any five operations with sketch. Each 5 *1.4 marks = 7 marks	**7**
OR	iii.	2 marks for Diagram of tool geometry, 5 marks for theory.	**7**
Q.5		Attempt any two:	
	i.	2 marks for figure,3 for explanation.	**5**
	ii.	Any four defect with brief explanation, each 4 * 1.25 marks= 5 marks	**5**
	iii.	2 marks for diagram,3 marks for explanation.	**5**
Q.6		Attempt any two:	
	i.	What is arc welding=3marks, At least two difference between AC and DC = 1 mark each	**5**
	ii.	2 marks for coating importance. 1 mark each for writing at least three differences. 3 * 1 mark = 3 marks	**5**
	iii.	Diagram 2 marks , explanation 3 marks.	**5**

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