1129

Code : 9ME-33

Register Number | | | | | | | |

III Semester Diploma Examination, Nov./Dec., 2014

MANUFACTURING TECHNOLOGY – I

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

Note : (i) Section – **I** is *compulsory*.
(ii) Answer any **two** full questions each from Sections – **II, III & IV**.

SECTION – I

1. (a) Fill in the blanks : **5**
   (i) _____ are inorganic, non-metallic, covalent network solids & can be used for high temperature related chores.
   (ii) _____ is used for drainage fittings and pipe work.
   (iii) In TIG welding _____ electrode is used to produce the weld.
   (iv) _____ is the operation of removal of the desired shaper from the edge of a plate.
   (v) _____ is the operation of enlarging the end of a hole cylindrically.

   (b) State the general properties of composite materials. **5**

SECTION – II

2. (a) Explain Thermoplastic and Thermosetting plastics. **5**
   (b) Write a note on advanced materials used in manufacturing. **5**
   (c) Explain the basic steps involved in casting process. **5**

3. (a) Explain with neat sketches shrinkage allowance and taper allowance. **6**
   (b) Explain sweep pattern with a neat sketch. **4**
   (c) Explain hydraulic press used in forging with a neat sketch. **5**

4. (a) List the types of casting defects. **5**
   (b) Explain closed die forging process. **4**
   (c) Explain bending and fullering operations in forging with simple sketches. **6**

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SECTION – III

5.	(a)	List the different forging defects and its remedies.	5
	(b)	Differentiate between cold working and hot working of metals.	5
	(c)	Explain three-high rolling mill with a neat sketch.	5
6.	(a)	Sketch and explain the working principle of rolling.	5
	(b)	Define welding, write the classification of welding process.	5
	(c)	Explain shielded metal arc welding with a neat sketch.	5
7.	(a)	Explain MIG welding with a neat sketch.	5
	(b)	Explain seam welding with a neat sketch.	5
	(c)	Sketch the power press and label its parts.	5

SECTION – IV

8.	(a)	How do you specify the size of a lathe ?	4
	(b)	Explain the working of pilot and knockout in press work with sketches.	6
	(c)	What are the differences between a capstan and a turret lathe ?	5
9.	(a)	Explain principle of thread cutting in a lathe with a neat sketch.	6
	(b)	Define the following w.r.t. a lathe :	4
		(i) Cutting speed	
		(ii) Feed	
		(iii) Depth of cut	
		(iv) Machining time	
	(c)	Explain progressive die with a neat sketch.	5
10.	(a)	Explain reaming and tapping operations with sketches.	8
	(b)	Explain twist drill nomenclature using sketches.	7

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