

B.TECH SEM - III (2007 COURSE) (MECHANICAL ENGG.) :
WINTER - 2017

SUBJECT: MANUFACTURING PROCESSES

Day: **Friday**
Date: **19/01/2018**

Time: **10.00 AM TO 01.00 PM**
Max. Marks: **80**

W-2017-2382

N.B.:

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Neat diagrams must be drawn **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.
- 5) Assume suitable data, if necessary.

SECTION - I

- Q.1**
- a) Classify different types press operation. **(05)**
 - b) Explain with neat sketch Induction furnace. **(05)**
 - c) State the advantages and limitations of Arc and gas welding. **(04)**
- Q.2**
- a) Explain centrifugal casting process in detail and state its typical application. **(07)**
 - b) What is pattern, mould and casting? Write the properties of good moulding sand. **(06)**
- Q.3**
- a) What is meant by Hot and Cold working process? State different hot working processes and their applications. **(07)**
 - b) Draw sketches and explain in short, direct and indirect extrusion process. **(06)**
- Q.4**
- a) Explain with diagrams following process. **(07)**
 - i) Seam wedding
 - ii) GTAW
 - b) What is straight and reverse polarity in which case it is applicable? **(06)**

SECTION - II

- Q.5**
- a) What is L.H. thread and R.H. thread and how these are generate on lathe. **(05)**
 - b) Find the indexing movement necessary for 51 divisions by compound indexing method. Use the following brown and share index plates.
Plate -1 - 15, 16, 17, 18, 19, 20
Plate - 2 - 21, 23, 27, 29, 31, 33
Plate - 3 - 37, 39m 41, 43, 47, 49 **(05)**
 - c) Draw and explain Tool and Cutter grinder. **(04)**
- Q.6**
- a) Write different operations on lathe machine. How Knurling operation is carry out on lathe. **(07)**
 - b) State the functions of the following accessories on lathe. **(06)**
 - i) Face plate
 - ii) Independent Chuck
 - iii) Compound rest
- Q.7**
- a) Write classification of drilling machine. Explain with neat sketch, Radial type drilling machine. **(07)**
 - b) Write difference between Upmilling and Down milling with neat sketch. **(06)**
- Q.8**
- a) Explain principle and working of Centreless grinding machine. **(07)**
 - b) State Indian standard marking system for grinding wheel with necessary detail. **(06)**

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