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337456(37)

BE (4th Semester)
Examination, Nov.-Dec., 2017

[New Scheme]

Manufacturing Science-I

Time Allowed : 3 hours *Maximum Marks* : 80

Minimum Pass Marks : 28

Note : (*i*) Part (*a*) of each question is compulsory. Attempt any **two** parts from (*b*), (*c*) and (*d*).

(*ii*) The figures in the right-hand margin indicate marks.

UNIT-I

1. (*a*) Define manufacturing processes. [2]

   (*b*) What are the materials from which patterns can be made ? Explain any five types of patterns with neat sketches. [7]

   (*c*) Explain hot chamber & cold chamber die casting in detail. [7]

   (*d*) Define gas defects. Explain blow holes, air inclusions and pin-hole porosity. [7]

UNIT-II

2. (*a*) Define DCSP and DCRP. [2]

   (*b*) Explain submerged arc welding with principle, equipment details, procedure, advantages & limitations. [7]

   (*c*) Explain classification & types of arc welding electrodes in detail. [7]

   (*d*) Explain various gas welding tools & equipments. [7]

UNIT-III

3. (*a*) Define resistance welding. [2]

   (*b*) Describe spot welding in detail including principle, equipment details, types of resistance welding machines for spot welding. [7]

   (*c*) Explain ultrasonic welding in detail. [7]

   (*d*) Explain various welding defects in detail. [7]

UNIT-IV

4. (*a*) Define capstan and turret lathe. [2]

   (*b*) Explain the different parts of lathe machine with proper specification & neat sketch. [7]

   (*c*) Explain the working & principle of planer. What are the various types of parts of planer ? [7]

   (*d*) What are the major operations that can be carried out in shaper ? [7]

UNIT - V

5. (*a*) What are the major differences between flat drill & twist drill ? [2]

   (*b*) Explain twist drill geometry in detail. [7]

   (*c*) Explain various types of milling machines in detail. [7]

   (*d*) Define broaching. Explain the classification of broaches. [7]

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