

**Code : 100105**

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**B.Tech 1st Semester Exam., 2018 (New)**

**WORKSHOP MANUFACTURING PRACTICES**

*Time : 3 hours*

*Full Marks : 70*

*Instructions :*

- (i) The marks are indicated in the right-hand margin.*
- (ii) There are **NINE** questions in this paper.*
- (iii) Attempt **FIVE** questions in all.*
- (iv) Question No. 1 is compulsory.*

1. Choose the correct option (any seven) :  $2 \times 7 = 14$

(a) The casting method adopted for ornaments and toys of non-ferrous alloys, is

- (i) permanent mould casting
- (ii) slush casting
- (iii) die casting
- (iv) centrifugal casting

- (b) In a cold chamber die casting machine
  - (i) melting pot is separate from the machine
  - (ii) melting pot is an integral part of the machine
  - (iii) melting pot may have any location
  - (iv) low temperature and pressure is used
- (c) Structural sections such as rails, angles, I-beams are made by
  - (i) hot rolling
  - (ii) hot drawing
  - (iii) hot piercing
  - (iv) hot extrusion
- (d) Cutting and forming operations can be performed in a single operation in a
  - (i) simple die
  - (ii) progressive die
  - (iii) compound die
  - (iv) combination die

- (e) The teeth of hacksaw blade are bent
- (i) towards right
  - (ii) towards left
  - (iii) alternately towards right and left and every third or fourth left straight
  - (iv) may be bent in any direction
- (f) A casting defect which occurs near the ingates as rough lumps on the surface of a casting is known as
- (i) shift
  - (ii) sand wash
  - (iii) swell
  - (iv) scab
- (g) The cold chisels are made from
- (i) cast iron
  - (ii) mild steel
  - (iii) high-speed steel
  - (iv) cast tool steel

- (h) To prevent the body of the blade from jamming in the saw cut, the teeth of blade are
- (i) strengthened
  - (ii) sharpened
  - (iii) set
  - (iv) All of the above
- (i) A ring gauge is used to
- (i) check the diameter of shafts or studs
  - (ii) test the accuracy of holes
  - (iii) check the clearance between two mating surfaces
  - (iv) All of the above
- (j) The metal is subjected to mechanical working for
- (i) refining grain size
  - (ii) reducing original block into desired shape
  - (iii) controlling the direction of flow lines
  - (iv) All of the above

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2. (a) List out any six carpentry processes. Sketch and describe a V-block. 7
- (b) Draw the neat sketches of the following : 7
- (i) Mortise and tenon joint
- (ii) Dovetail joint <http://www.akubihar.com>
3. (a) Explain any five types of files used in fitting with neat sketches. 5
- (b) Name the various types of vices used in fitting shop. 5
- (c) Define the following : 4
- (i) Drilling
- (ii) Boring
4. (a) List any six forging defects. 6
- (b) Distinguish between blanking and punching. 4
- (c) Explain any two stakes used in sheet metal work with sketches. 4

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5. (a) What are the different work-holding devices used in drilling machine? Discuss any three of them with neat sketches. 8
- (b) Sketch the twist drill and label the parts. 6
6. (a) What are the advantages and disadvantages of hot working over cold working? 7
- (b) Discuss, in detail, how plunge-operated hot-chamber die casting machine works. 7
7. (a) List any four properties of moulding sand and explain them. 8
- (b) State the function of runner and risers. 6
8. (a) List out various fastening methods those are used in sheet metal and explain any two of them. 7
- (b) What is the difference between hem and seam? 7

9 (a) What is a core? List out the different types of cores. 6

(b) What are the advantages of green sand mould? 8

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