

Bihar Engineering University, Patna
B.Tech 1st Semester Exam-2022

Course: B.Tech.
Code: 100105

Subject: WORKSHOP MANUFACTURING PRACTICES

Time: 03 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

Q.1 Choose the correct answer of the following: (any seven)

[2 x 7 = 14]

- (a) Structural sections such as rails, angles, I-beams are made by
 - I. Hot rolling
 - II. Hot drawing
 - III. Hot piercing
 - IV. Hot extrusion
- (b) In arc welding, the electric arc is produced between the work and the electrode by
 - I. Voltage
 - II. Flow of current
 - III. Contact resistance
 - IV. All of the above
- (c) Blanking is a
 - I. Forging operation
 - II. Sheet metal operation
 - III. Bending operation
 - IV. Rolling operation
- (d) Mallet is a
 - I. Measuring tool
 - II. Marking tool
 - III. Holding tool
 - IV. Striking tool
- (e) The temperature at which the new grains are formed in the metal is called
 - I. Eutectic temperature
 - II. Eutectoid temperature
 - III. Critical temperature
 - IV. Recrystallization temperature
- (f) In centrifugal casting
 - I. Core is made of sand
 - II. Core is made of ferrous material
 - III. Core is made of non-ferrous material
 - IV. No core is used
- (g) 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
- (h) Loam sand is a mixture of
 - I. 20% sand and 80% clay
 - II. 50% sand and 50% clay
 - III. 70% sand and 30% clay
 - IV. 80% sand and 20% clay

P.T.O.

- (i) Which of the following welding processes uses non-consumable electrodes?
- I. TIG welding
 - II. MIG welding
 - III. Manual arc welding
 - IV. Submerged arc welding
- (j) 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
- Q.2** (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]
- Q.3** (a) List out the different types of files. Write the use of any three types of files with sketches. [7]
 (b) Describe the working of spring hammer with neat sketch. [7]
- Q.4** (a) Write four advantages of hot working process. Explain the principle of hot rolling. [6]
 (b) Explain the following hot working processes: [8]
 i. Extrusion
 ii. Drawing
- Q.5** (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]
- Q.6** (a) Write the specific application of any three measuring tools in carpentry. List out the different holding tools used in carpentry. [6]
 (b) Explain the following handsaws used in carpentry with neat sketch: [8]
 i. Rip saw
 ii. Bow saw
 iii. Dovetail Saw
 iv. Keyhole saw
- Q.7** (a) Discuss different type of electrodes and why electrode is coating. [6]
 (b) What are the welding defects occurs during welding. Explain any four. [8]
- Q.8** (a) List any four materials used for pattern making. [2]
 (b) Explain any four properties of moulding sand. [8]
 (c) What is meant by sand binder? Name the types of sand binders. [4]
- Q.9** (a) What is 3D printing? Write some important applications of 3D Printing. [3]
 (b) Discuss Fused Deposition Modeling process of 3D printing. [5]
 (c) Differentiate between Soldering and Brazing. [6]

