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Bihar Engineering University, Patna
B.Tech. 2nd Semester Special Examination, 2024

Course: B.Tech.
Code: 100205

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 question only): **[2 x 7 = 14]**

- (a) Slag inclusion in casting is a
 - (i) Surface defect
 - (ii) Internal defect
 - (iii) Crack
 - (iv) Notch
- (b) The sand in its natural or moist state is called as
 - (i) Green Sand
 - (ii) Loam Sand
 - (iii) Dry Sand
 - (iv) None of the above
- (c) In traditional machining, which component is made of a relatively harder material?
 - (i) Tool
 - (ii) Workpiece
 - (iii) Holding device
 - (iv) None of the mentioned
- (d) The welding machine, Which is used to convert AC welding supply to DC welding supply is ?
 - (i) Motor Generator set
 - (ii) Engine generator set
 - (iii) Rectifier Set
 - (iv) Welding transformer
- (e) _____ is the simplest form of joint.
 - (i) Lapped Joint
 - (ii) Widening Joint
 - (iii) Oblique joint
 - (iii) Framing Joint
- (f) _____ is the most of commonly used manufacturing process for the plastic components.
 - (i) Blow moulding
 - (ii) Transfer moulding
 - (iii) Injection moulding
 - (iv) Rotational moulding
- (g) Why are the plasticisers added with polymers?
 - (i) To hold other constituents of plastic together
 - (ii) To reduce the cost and enhance the strength and hardness of plastics
 - (iii) To improve flexibility and to reduce the temperature and pressure required for moulding of plastics
 - (iv) None of the above
- (h) What is the term for the digital file that contains the instructions for a 3D printer?
 - (i) Blueprint
 - (ii) Template
 - (iii) Code
 - (iv) G-code
- (i) Hot working of metal is carried out
 - (i) At the re-crystallisation temperature
 - (ii) Below the re-crystallisation temperature
 - (iii) Above the re-crystallisation temperature
 - (iv) Just above the melting temperature
- (j) Solder is an alloy of
 - (i) Tin and Silver
 - (ii) Copper and Tin
 - (iii) Tin and Lead
 - (iv) Lead and Copper

- Q.2** (a) Describe various types of saws used in carpentry work. [8]
(b) Briefly explain the types the seam in sheet metal operation. [6]
- Q.3** (a) List out various forging operations and explain any four of them. [8]
(b) Differentiate between brazing and soldering. [6]
- Q.4** (a) What is tape? Explain different types of tape that are used in fitting with neat sketch. [7]
(b) List and explain any five welding defects [7]
- Q.5** (a) Explain in detail the technique for plastic moulding. [7]
(b) Explain with neat sketch Arc welding [7]
- Q.6** (a) Explain in detail post processing of additive manufacturing parts. [7]
(b) Compare hot working and cold working. [7]
- Q.7** (a) Explain different casting allowances. [7]
(b) What are the Common defects found in the timber and what are their reasons? [7]
- Q.8** List out various hand tools used in forging and explain why machine forging is better than hand forging. [14]
- Q.9** Explain the following [3½ x 4=14]
(a) Riser in casting
(b) Different methods of filing
(c) Difference between electrode and filler rod
(d) Hot Rolling

