

**B.Tech 1st Semester Exam., 2019
(New Course)**

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 answer of the following
(any seven) : 2×7=14

(a) A zinc diffusion process is called

- (i) galvanizing
- (ii) anodizing
- (iii) parkerizing
- (iv) sherardizing

(b) The type of file used for a woodwork is

- (i) single-cut file
- (ii) double-cut file
- (iii) rasp-cut file
- (iv) Any one of the above

(c) A taper provided on the pattern for its easy and clean withdrawal from the mould is known as

- (i) machining allowance
- (ii) draft allowance
- (iii) shrinkage allowance
- (iv) distortion allowance

(d) 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

- (e) In a centrifugal casting method
- (i) core is made of sand
 - (ii) core is made of ferrous metal
 - (iii) core is made of non-ferrous metal
 - (iv) no core is used
- (f) The draft or taper allowance on casting is generally <http://www.akubihar.com>
- (i) 1 to 2 mm/m
 - (ii) 2 to 5 mm/m
 - (iii) 5 to 10 mm/m
 - (iv) 10 to 15 mm/m
- (g) Which of the following welding processes uses non-consumable electrodes?
- (i) TIG welding
 - (ii) MIG welding
 - (iii) Manual arc welding
 - (iv) Submerged arc welding

- (h) In a bilateral system of tolerance, the tolerance is allowed on
- (i) one side of the actual size
 - (ii) one side of the nominal size
 - (iii) both sides of the actual size
 - (iv) both sides of the nominal size
- (i) The temperature at which the new grains are formed in the metal is called
- (i) lower critical temperature
 - (ii) upper critical temperature
 - (iii) eutectic temperature
 - (iv) recrystallization temperature
- (j) In sheet metal blanking, shear is provided on punches and dies so that
- (i) press load is reduced
 - (ii) good cut edge is obtained
 - (iii) warping of sheet is minimized
 - (iv) cut blanks are straight

2. (a) Draw a neat sketch of metal jack plane and name its parts. 7
- (b) Write the specific use of (i) spokeshave and (ii) router plane. 7
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
4. (a) What is tap? Explain the different types of tap that are used in fitting with neat sketch. 7
- (b) List out the forging operations. Explain any four forging operations with a suitable diagram. 7
5. (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
6. (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
7. (a) Explain any four operations performed on lathe machine with neat sketch. 8
- (b) Write a short note on sine bar. 6
8. (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

9. (a) What is the minimum flange length in sheet metal bend? 6
- (b) Draw and explain four types of seam in sheet metal operation. 8
