



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Agri. Engg) 2018 Admission**  
**II Semester Final Examination- June 2019**

Fpme.1201

**Workshop Technology and Practices (1+2)**

**Marks: 50**  
**Time: 2 hours**  
**(10x1=10)**

**I Fill in the blanks**

- 1 \_\_\_\_\_ of a material is its ultimate strength in tension.
- 2 Split patterns when mounted with one half on one side of a plate and the other half directly opposite on the other side of that plate, the pattern is called a \_\_\_\_\_ pattern.
- 3 \_\_\_\_\_ is a high-temperature ionized gas that occurs or gets generated in an electric arc between two electrodes.
- 4 For holding steel drill-bits up to about 14 mm in diameter, which are having \_\_\_\_\_ shanks, a drill chuck often called Jacob's chuck, is used.
- 5 In \_\_\_\_\_ cutting, the cutting edge of tool remains at right angle to the direction of motion of the tool or the work

**State true /false**

- 6 A dowel joint is the reverse of the mortise and tenon joint, and is often called the open mortise and tenon joint.
- 7 Piercing is employed to produce seamed tubes or pipes.
- 8 A neutral flame is one in which there is an excess of acetylene.
- 9 The main property of divisibility of material is taken advantage of in the casting of steel pulleys.
- 10 A plain mandrel is a device for holding and rotating on a lathe a hollow piece of work having internal thread.

**II Write Short notes on any FIVE of the following**

**(5x2=10)**

- 1 Control-interlocking for safety in a plant
- 2 Artificial/Kiln seasoning of wood
- 3 Brazing
- 4 Gating system in moulding
- 5 Die casting
- 6 Universal shaper
- 7 End milling

**III Answer any FIVE of the following.**

**(5x4=20)**

- 1 Describe briefly the following four types of carpentry chisel:  
a) Firmer chisel      b) Dovetail chisel      c) Mortise chisel      d) Gouge chisel
- 2 Draw the neat diagrams of the following four types of joint made in gas welding:  
a) Square butt-weld      b) Single V-weld  
c) Single fillet-lap-weld      d) Corner fillet-weld
- 3 Explain briefly about the following two types of core in moulding:  
a) Horizontal core      b) Balanced core
- 4 What are meant by the following terms coming under twist-drill-bit nomenclature?  
a) Chisel edge      b) Tang      c) Flute and its four functions      d) Land

**P.T.O**

- 5 Explain briefly the operation of straight turning in a lathe operation.
- 6 Show with the aid of neat drawings the main effect produced on a short mild-steel bar due to the following when upsetting in smithy. Need to make, only the drawings.
  - a) Heavy hammer blows on a uniformly heated bar.
  - b) Comparatively light hammer blows on a uniformly heated bar.
  - c) Light hammer blows on a bar heated only at the end placed on the anvil surface.
  - d) Medium hammer blows on a bar heated only at the middle.
- 7 Describe briefly about flux-cored arc welding.

**IV Answer any ONE of the following (1x10=10)**

- 1 Explain plant layout involving Process Layout, and Product Layout, indicating what these are, and their merits and demerits.
- 2 Explain lathe carriage involving Saddle, Cross-slide, Compound rest/slide, Tool post, and Apron, explaining what these are, and their functions.

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