

## Scheme – I

### Sample Question Paper

**Program Name** : Diploma in Production Engineering / Production Technology  
**Program Code** : PG/ PT  
**Semester** : Fifth  
**Course Title** : Forming and Joining Processes  
**Marks** : 70

**22568**

**Time: 3 Hrs.**

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**Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

**Q.1) Attempt any FIVE of the following.**

**10 Marks**

- a) Classify manufacturing processes.
- b) Classify forging processes.
- c) Write any four applications of wire drawing.
- d) Give any four essential qualities of a Core.
- e) Enlist any four pattern making materials.
- f) Give a list of necessary equipment for Gas Welding.
- g) Enlist important properties of plastics.

**Q.2) Attempt any THREE of the following.**

**12 Marks**

- a) Explain press forging with help of a neat sketch.
- b) Describe indirect extrusion with help of a neat sketch.
- c) State hot spinning process with suitable example.
- d) List any four important properties of moulding sand.

**Q.3) Attempt any THREE of the following.**

**12 Marks**

- a) State any four design consideration in forging.
- b) Compare hot rolling with cold rolling.
- c) Describe investment casting with the help of neat sketch.
- d) Draw a neat and labeled sketch of Cupola furnace.

**Q.4) Attempt any THREE of the following.**

**12 Marks**

- a) Suggest suitable process for manufacturing following products:
  - (i) Aluminum sliding window sections
  - (ii) Aluminum drinking water glass
  - (iii) Copper wire
  - (iv) Hexagonal rods
- b) Describe centrifugal casting with help of a neat sketch.
- c) Suggest suitable remedies for following casting defects:
  - (i) Blow Holes (ii) Cold Shut (iii) Hot Tears (iii) Shift
- d) Explain Spot welding with the help of a neat sketch.
- e) Compare TIG and MIG welding on following parameters:
  - (i) Sketch (ii) Working (iii) Advantages (iv) Applications.

**Q.5) Attempt any TWO of the following.**

**12 Marks**

- a) Describe Laser Beam Welding with the help of a neat sketch. Give its applications.
- b) Select and justify relevant joining process for following joints:
  - (i) Cutting tips and tool shank
  - (ii) Printed circuit board
  - (iii) Thin sheet Steel Cupboards
  - (iv) Grills and safety doors
  - (v) Boiler vessels
  - (vi) 1mm.thick Stainless Steel Vacuum chambers
- c) Enlist any six plastic molding processes along with its applications.

**Q.6) Attempt any TWO of the following.**

**12 Marks**

- a) Compare hot and cold chamber die casting processes.
- b) Classify welding processes.
- c) Describe Plastic Extrusion Molding with help of neat sketch.

## Scheme – I

### Sample Test Paper - I

**Program Name** : Diploma in Production Engineering / Production Technology  
**Program Code** : PG/ PT  
**Semester** : Fifth  
**Course Title** : Forming and Joining Processes  
**Marks** : 20

**22568**

**Time: 1 Hour.**

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#### **Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

#### **Q.1 Attempt any FOUR.**

**08 Marks**

- a. Define forgeability.
- b. Give a list of forging equipment's.
- c. State applications of extrusion.
- d. State causes of wire drawing defects.
- e. Define colour coding of pattern.
- f. State types of moulding sand.

#### **Q.2 Attempt any TWO**

**12 Marks**

- a. Compare closed die forging and open die forging.
- b. Describe wire drawing process and equipment required for it.
- c. Describe elements of gating and rising system of moulding with help of sketch.

## Scheme – I

### Sample Test Paper - II

**Program Name** : Diploma in Production Engineering / Production Technology  
**Program Code** : PG/ PT  
**Semester** : Fifth  
**Course Title** : Forming and Joining Processes  
**Marks** : 20

**22568**

**Time: 1 Hour.**

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#### **Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

#### **Q.1 Attempt any FOUR.**

**08 Marks**

- a. Give applications of investment casting.
- b. Enlist any four casting defects.
- c. Draw Neutral flame and Oxidising flame in Gas welding
- d. State any two defects in welded joints and their causes.
- e. Give a List of any four plastic additives.
- f. State two applications of each: (i) Vacuum forming (ii) Calendaring.

#### **Q.2 Attempt any TWO.**

**12 Marks**

- a. Describe working of Shell moulding with help of a neat sketch.
- b. Explain constructional features of Electron Beam Welding (EBW) with help of a neat sketch.
- c. Describe blow moulding process of plastic moulding with help of a neat sketch.