Scheme – I

Sample Question Paper

Program Name : **Diploma in Plastic Engineering**
Program Code : **PS**
Semester : **Fourth**
Course Title : **Mould Manufacturing**
Marks : **70**

22456

Time: 3 Hrs.

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) A) Attempt any FIVE of the following. **10 Marks**

(a) Define Impression.
(b) State the classification of ferrous metals.
(c) Enlist the types of stainless steel.
(d) State the working principle of lathe machine.
(e) Enlist the types of patterns.
(f) State the necessity of heat treatment in mould manufacturing.
(g) Enlist the steps involved in bench fitting.

Q.2) Attempt any THREE of the following. **12 Marks**

(a) Differentiate between fixed half and moving half of the injection mould with at least four points
(b) Write down any four properties and applications of P-20 steel.
(c) Differentiate between conventional machining technique and modern machining technique with at least four points.
(d) Suggest the name of the machine for making 5 mm holes in cavity plate of injection mould. Write its working principle.

Q.3) Attempt any THREE of the following. **12 Marks**

(a) Explain the types of runner cross-sections with neat diagrams.
(b) Write any four properties and applications of aluminium

(c) Write any four advantages of aluminium pattern over wood pattern.

(d) Describe direct bolting method for mold assembly with neat diagram.

Q.4) Attempt any THREE of the following. 12 Marks

(a) Name the type of steel having 0.5 % carbon content in it. Write its utility of such steel for injection mould.

(b) Write the working principle of surface grinder with neat diagram

(c) Write the comparison between normalizing and annealing with at least four points

(d) State the reason why do we get different colours on metal surfaces at different tempering temperature. Write any two colours of tempered steels with their applications.

(e) Describe indirect bolting method for mold assembly with neat diagram.

Q.5) Attempt any TWO of the following. 12 Marks

(a) Write down the test procedure for finding Hardness of metal by using Rockwell hardness tester with neat diagram.

(b) Explain any two operations performed on milling machine with neat diagram.

(c) Suggest the plating method for glossy cavity finish. Describe its procedure.

Q.6) Attempt any TWO of the following. 12 Marks

(a) Describe the type of bolster for circular cavity/core with neat diagram.

(b) Explain construction and operation of EDM wire-cut with neat diagram.

(c) Explain the process of pack carburizing in detail.

Scheme – I

Sample Test Paper - I

Program Name : **Diploma in Plastic Engineering**

Program Code : **PS**

Semester : **Fourth**

22456

Course Title : **Mould Manufacturing**

Marks : **20** **Time: 1 Hour**

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 of the following. **08 Marks**

a) State the importance of register ring in injection mould

b) State the difference in single sentence between integer cavity and insert cavity.

c) Define ferrous metals and non ferrous metals

d) List any four non ferrous metals

e) Write any four important properties of cast iron.

Q.2) Attempt any THREE of the following. **12 Marks**

a) Describe the importance of correct positioning of gate with suitable examples.

b) Explain four types of runner cross-sections with neat diagrams.

c) Write four important properties and applications of high carbon steel.

d) Explain criteria for selection of material for making of given mould components.

Scheme – I

Sample Test Paper - II

Program Name : **Diploma in Plastic Engineering**

Program Code : **PS**

Semester : **Fourth**

22456

Course Title : **Mould Manufacturing**

Marks : **20** **Time: 1 Hour**

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 of the following. **08 Marks**

a) State two applications each of any two modern machining techniques.

b) Enlist the software used for designing plastic moulds.

c) Identify the heat treatment method for improving hardness of mould.

d) List the types of quenching media.

e) State the importance of polishing and finishing mould elements.

Q.2) Attempt any THREE of the following. **12 Marks**

a) Suggest the plating method for glossy cavity finish. Describe its procedure.

b) Describe the process of pack carburizing.

c) Explain any two operations performed on milling machine with neat diagram.

d) Describe indirect bolting method for mold assembly with neat diagram.