

CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY
HEAD OFFICE : GUINDY, CHENNAI – 600 032.
ACADEMIC CELL
FOURTH SEMESTER EXAMINATION – JULY 2024

Duration : 3 Hours
Course : DPT
Subject : Industrial Management & Entrepreneurship

Max. Marks: 60
Date : 02.07.2024
Time : 10.00 a.m. to 01.00 p.m.

(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)

PART – A

Answer **all** questions

12 x 1 = 12

- Administration falls under which level of Management.
(a) Top Level (b) Middle Level (c) Lower Level (d) None of the above
- _____ is a process of stimulating people to action to accomplish desired goals.
(a) Management (b) Job Satisfaction (c) Motivation (d) Planning
- What is meant by Kaizen?
(a) Card Signal (b) To avoid inadvertent errors (c) Change for better quality (d) All of the above
- _____ involves selecting and placing the right person at the right position
- Communication may be oral or _____.
- Facial expression is a form of _____ communication.
- Management is a continuous process. True/False
- Administration focuses on making the best utilization of the organizational resources. True/False
- Writing skills is not recognized as a key skill of management. True/False.
- ISO stands for _____
- BEP stands for _____
- HRM stands for _____

PART – B

Answer **all** questions (Max. 40 words)

4 x 2 = 8

- What are the characteristics of management?
- Define Staffing?
- Explain leadership.
- What is Direct Material Cost?

PART – C

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

- What is total quality management? How it is useful to customers.
- Distinguish between Direct cost and indirect Cost.
- Define the Functions of Management.
- Explain Line and Staff organization.
- Explain Total Quality Management.
- Define Break-even point.
- Define the importance of cost estimation.

PART – D

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

- Explain the different types of communication.
- Briefly explain the different characteristics of a successful Entrepreneur.
- Briefly explain the steps involved in the preparation of a Project Report.

CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY
HEAD OFFICE : GUINDY, CHENNAI – 600 032.
ACADEMIC CELL
FOURTH SEMESTER EXAMINATION – JULY 2024

Duration : 3 Hours
Course : DPT
Subject : Plastics Product & Mould Design

Max. Marks: 60
Date : 03.07.2024
Time : 10.00 a.m. to 01.00 p.m.

(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)

PART – A

Answer **all** questions

12 x 1 = 12

1. The restricted area of runner to the cavity of the mould in the injection mould is
(a) Sprue (b) gate (c) runner (d) none of these.
2. _____ is the external surface appearance of a product.
(a) Aesthetic (b) size (c) weight (d) none
3. _____ plates are used to improve bending stiffness
(a) Gusset (b) nuts (c) bolts (d) none
4. Inclusive angle of sprue in sprue bush _____
5. The purpose of ejector pin is _____
6. Corner radii should be minimum of _____ of the part thickness for thermo plastics
7. The liquid plastic is forced into a mould by pressure. **Say true or false**
8. The hollow plastic tube called parison that is extruded from the head from which blown objects are made. **Say true or false**
9. Shrinkage the measured difference found on a finished molded part verses the dimensions of the actual mold. **Say true or false**
10. Abbreviate CATIA
11. Abbreviation of STL
12. Expand AMT

PART – B

Answer **all** questions (Max. 40 words)

4 x 2 = 8

1. What is 3D Printing?
2. What is parting line?
3. What is the purpose of sprue puller in a mould?
4. What is an undercut?

PART – C

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

1. Write short notes on stepped parting surface and angled parting surface with sketches.
2. Write short notes Pot transfer mould Design
3. Draw a balanced runner layout for 4 impressions and 8 impressions
4. Explain baffle and bubble cooling with neat sketches
5. Explain submarine gate and edge gate with neat sketches
6. Write short notes on pin ejection and sleeve ejection.
7. What are the types of compression mold

PART – D

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

1. What is standard mould base? Explain in detail with a neat sketch
2. List down the types of 3D printing methods. Explain any one method with neat sketch .
3. Write down the types of runners. Explain any two types of runners with neat sketch

CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY
HEAD OFFICE : GUINDY, CHENNAI – 600 032.
ACADEMIC CELL
FOURTH SEMESTER EXAMINATION – JULY 2024

Duration : 3 Hours
Course : DPT
Subject : Plastics Materials-II

Max. Marks: 60
Date : 04.07.2024
Time : 10.00 a.m. to 01.00 p.m.

(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)

PART – A

Answer **all** questions

12 x 1 = 12

- Reason for blending TPU with POM is
 - To increase the modulus
 - To increase the tensile strength
 - To increase the toughness
 - All the above
- Function of Mg(OH)₂ in plastics?
 - plasticizer
 - lubricants
 - flame retardant
 - antioxidant
- Kevlar is synthetic fiber of _____
 - Nylon
 - Liquid crystal polymers
 - imide
 - aramid
- Polymer alloy is an _____ blend having modified interface and/or morphology
- PC/ABS is an _____
- D- Glass type fibre has good property.
- PP/PS is a miscible polymer blend. Say True or False.
- Alumina trihydrate is used as Flame retardant 1. Say true or false
- Toughening agents improve impact of polymer. Say True or False
- PMC Stands for _____
- HALS Stands for _____
- PEEK Stands for _____

PART – B

Answer **all** questions (Max. 40 words)

4 x 2 = 8

- Define Flame retardant?
- What do you understand by Aramid?
- Write two example of UV stabilizer.
- Give some example for miscible polymer blends.

PART – C

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

- Differentiate between miscible and immiscible blend.
- Differentiate between synthetic and Nature Fibres.
- Write the advantages of glass filled nylons compare to standard nylon.
- Define composite? Write the merits of composite?
- What is a lubricant? Define the types of lubricant.
- What do you meant by speciality plastics? Give 3 examples of them.
- What is compounding? Discuss the function of any two additives.

PART – D

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

- Brief the structure, manufacturing process, characteristics and application of Epoxy.
- Write structure, manufacturing, properties and application of PEEK.
- Discuss mechanism and give example of (a). Flame retardant (b). Blowing agent

CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY
HEAD OFFICE : GUINDY, CHENNAI – 600 032.
ACADEMIC CELL
FOURTH SEMESTER EXAMINATION – JULY 2024

Duration : 3 Hours
Course : DPT
Subject : Plastics Testing - I

Max. Marks: 60
Date : 05.07.2024
Time : 10.00 a.m. to 01.00 p.m.

(DO NOT CHANGE SEQUENCE OF QUESTION NUMBER IN ANSWER SCRIPT)

PART – A

Answer **all** questions

12 x 1 = 12

- Example of Long term testing is –
a) Hardness b) Tensile strength c) Creep d) All of the above
- The ambient temperature and humidity for conditions as per Indian Standard is -
a) 27±2 °C & 65±5 % RH b) 24±2 °C & 50±5 % RH
c) 25±2 °C & 50±5 % RH d) 23±2°C & 65±5 % RH
- MFI test as per ASTM D 1238 for PP is carried out at _____ °C & _____ kg Weight.
a) 230°C & 5 kg b) 190°C & 2.16 kg c) 190°C & 5 kg d) 230°C & 2.16 kg
- Cyclohexanone is used as solvent for viscosity determination of PVC. (Say True or False)
- For film samples test specimen are prepared by Contour cutting. (Say True or False)
- Impact properties determine the shock loading bearing characteristics of plastic materials. (Say True or False)
- ASTM _____ method is used for testing HDT test. (Fill in the blank)
- ASTM _____ method is used for testing Density of plastic. (Fill in the blank)
- _____ is the unit of stress. (Fill in the blank)
- What is the full form of ISO.
- What is the full form of DSC.
- Expand NABL.

PART – B

Answer **all** questions (Max. 40 words)

4 x 2 = 8

- Why testing is important for plastic products/raw materials?
- How to distinguish the HDPE and LDPE by common identification process.
- Define Modulus of Elasticity
- Write two factors affecting the density of plastics.

PART – C

Answer any **six** questions (Max. 100 words)

6 x 4 = 24

- Write on the sample conditioning procedure as per ASTM D 618.
- Discuss the burning test for the plastics identification.
- Write short note on compressive strength property (ASTM D 695).
- What is tensile and flexural creep?
- Write the test method of abrasion resistance test.
- What are the factors affecting the impact strength.
- Define VST. Mention the importance of VST determination for plastics.

PART – D

Answer any **two** questions (Max. 300 words)

2 x 8 = 16

- Discuss the typical Stress- strain curve for Plastics with diagram.
- Define Hardness of plastics. Explain the test method of Rockwell Hardness Test.
- Discus how the DSC is utilize for characterization of the thermal properties of plastics.
