



18-1141

CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY
HEAD OFFICE : GUINDY, CHENNAI – 600 032.
ACADEMIC CELL
FOURTH SEMESTER EXAMINATION – JULY 2022

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

Max. Marks: 60
Date : 05.07.2022
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

30 x 1 = 30

1. Management is:
(a) The science of polymer product (b) An art of getting things done
(c) Commerce of making profit (d) None of the above
2. Who is considered to be the "Father of Scientific Management"?
(a) Henry Fayol (b) F.W. Taylor (c) Ross Moore (d) Koontz & O'Donnell
3. Strike the odd one out
(a) Management is a process (b) Management is a game
(c) Management is an activity (d) Management is a discipline
4. Administration falls under which level of Management.
(a) Top Level (b) Middle Level (c) Lower Level (d) None of the above
5. What are the different types of organizational structure?
(a) Line Organization (b) Line & Staff Organization
(c) Functional Organization (d) All of the above
6. Which of the following is "determining in advance, what should be done in future"
(a) Staffing (b) Directing (c) Planning (d) All the above
7. Performance Appraisal is –
(a) The process of de-motivating an employee
(b) The process of measuring and evaluating an employee's behavior and performance
(c) The process of demotion of an employee
(d) None of the above
8. Which of the following is the method of training?
(a) Demonstration (b) Lectures (c) Conferences/Seminar (d) All of the above
9. A job displaying the information regarding the responsibilities, skills or time required, working conditions , types of persons required ,qualification required etc. is known as
(a) Job Analysis (b) Job Description (c) Job Specialization (d) Job Evaluation
10. A Systematic evaluation of an employee's performance on the job in terms of requirement of the job is known as
(a) Job Evaluation (b) Job Satisfaction (c) Merit Rating (d) Merit Ranking
11. The objective of ISO-9000 family of Quality management is
(a) Customer satisfaction (b) Environmental Issues
(c) Employee Satisfaction (d) Skill Enhancement
12. TQM focuses on
(a) Employee (b) Customer (c) Both A] & B] (d) None of the above
13. In ISO, the focus is on
(a) Enhancing customer satisfaction (b) Satisfying customers
(c) Delighting customers (d) All of the above
14. The major Which one of the following is a component of small scale industries
(a) Modern small scale industries (b) Ancillary industries
(c) Cottage industries (d) All the above
15. Central Excise Duty is levied and collected by
(a) Central Government (b) State Government (c) Local authorities (d) All of the above
16. _____ involves selecting and placing the right person at the right position
17. _____ is concerned with choosing the best course of action from among the alternatives.
18. Facial expression is a form of _____ communication
19. Third party quality audit is also known as _____.
20. Brainstorming involves _____
21. Management is a continuous process. True/False
22. Administration focuses on making the best utilization of the organizational resources. True/False

- 23. Writing skills is not recognized as a key skill of management. True/False
- 24. Cost of Production is same as Total cost. True/False.
- 25. The objective of costing is to evaluate alternate design of product- True/False
- 26. ISO stands for
- 27. BEP stands for
- 28. SSI stands for
- 29. TQM stands for
- 30. HRM stands for

PART – B

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

4 x 2 = 8

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

PART – C

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

4 x 3 = 12

- 1. Explain the Functions of Management.
- 2. Explain Line and Staff organization.
- 3. Explain Total Quality Management.
- 4. Define Break-even point.
- 5. Define the importance of cost estimation.

PART – D

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

2 x 5 = 10

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



18-1142

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HEAD OFFICE : GUINDY, CHENNAI – 600 032.
ACADEMIC CELL
FOURTH SEMESTER EXAMINATION – JULY 2022

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

Max. Marks: 60
Date : 06.07.2022
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

30 x 1 = 30

1. To avoid sink marks in the product _____ is maintained.
2. For molds containing intricate impressions & multi impressions _____ type core & cavity is preferred.
3. _____ gate is used to feed from the base in single impression two plate mold.
4. Ejector plate assembly contains _____.
5. _____ method is not used for external undercut components
 - a. Finger-cam
 - b. Dogleg-cam
 - c. cam-track
 - d. Collapsible core
6. In Compression mould the Flashes are allowed. Say True or False.
7. Modified trapezoidal runner is machined in core & cavity side. Say True or False.
8. Form pin is used for Internal undercut component. Say True or False.
9. Plasticizing rate is calculated by weight of the molding x number of moldings/hour – Say true or false.
10. Normally clamping force is calculated by projected area of molding x $\frac{1}{2}$ to $\frac{1}{3}$ times of injection pressure – Say true or false.
11. DMS stands for _____.
12. EXPAND ISI _____
13. R I M Stands for _____
14. _____ is abbreviated as FRP
15. _____ is abbreviated as L/D ratio
16. The efficiency of round runner is _____
17. When longer delay period is required in the opening of split _____ method of actuating is employed
18. The ejector unit of a mould is brought back to original position by _____
19. Combination of compression & Injection moulding is known as _____
20. Clamping force = _____ x Effective Injection Pressure.
21. Plunger transfer mould will develop _____ frictional force than the pot type transfer mould.
 - (a) More
 - (b) Less
 - (c) Same
 - (d) None of the above
22. The mould materials for thermoforming _____
 - (a) Plaster of Paris
 - (b) Wooden mould
 - (c) Aluminum mould
 - (d) All of these
23. Amorphous plastics shrink _____ crystalline plastics
 - (a) More than
 - (b) Less than
 - (c) Same as
 - (d) None of these
24. In rotational moulding, the raw material used as
 - (a) Powder
 - (b) Granules
 - (c) Sheet
 - (d) Liquid
25. Generally, the compression moulds are heated by
 - (a) Band Heater
 - (b) Strip Heater
 - (c) Cartridge Heater
 - (d) None of these
26. In what type of mould pinpoint gate is used
27. Runner efficiency is referred as
 - (a) The ratio between cross sectional area and periphery of the runner
 - (b) The ratio between the length and width of the runner
 - (c) The output of the runner
 - (d) None of the above
28. Register Ring is used for
 - (a) Ejecting the moulding
 - (b) Matching core and cavity
 - (c) Aligning plates together
 - (d) Locating mould with machine
29. GD & T stands for _____.
30. The fit used for mould Guide pillar and Guide bush is _____.

PART – B

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

4 x 2 = 8

1. What is the use of clod slug well?
2. What is mean by parting surface?
3. What do you mean by cull?
4. What is the main function of guide pillar and guide bush?

PART – C

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

4 x 3 = 12

1. Explain with neat sketch any two methods of sprue puller.
2. What do you mean by bubbler system?
3. Explain breaker plate and its function in extrusion with neat sketch.
4. What are the parts of an extruder? Explain compression ratio and L/D ratio.
5. Differentiate between integer and insert type of moldin

PART – D

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

2 x 5 = 10

1. What are the major components of Ejection system? Explain sleeve Ejection technique with neat sketch
2. What is Rapid prototyping? Explain steriolithiography technique with neat sketch.
3. What is extrusion principle? How extrusion dies are classified? Explain any one type of extrusion die with neat sketch.

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FOURTH SEMESTER EXAMINATION – JULY 2022

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

Max. Marks: 60
 Date : 07.07.2022
 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

30 x 1 = 30

1. Nylon-6 is made from
 a) Condensation reaction b) Caprolactum c) Hexanedioic acid d) all of them
2. If the arrangement of functional groups on carbon chain is alternating. It is called
 a) Isotactic b) Syndiotactic (c) Atactic (d) None of these
3. Which of the following material is used in Biomedical applications such as Knee and Hip replacements.
 a) UHMWHDPE b) PA 11 c) PC d) All of these
4. The density range of UMWHDPE is _____ that of MDPE?
 a) higher than b) same as c) lower than d) none of these
5. Which of the following is also known as Polyacetal polymers?
 a) POM b) Polycarbonate c) PET d) PBT
6. Victrex is the trade name of _____
 a) LCP b) PTFE c) PEEK d) PSU
7. Recommended Mold Temperature for PEEK is _____
 a) 90-130°C b) 200-220°C c) 100 -140°C d) 160-200°C
8. Polymer blend is a mixture of least two _____
 a) Polymers b) Copolymers c) Both a) and b) d) None of these
9. PP and nylon 6 form immiscible blend
 a) Miscible blend b) Immiscible blend c) LCP d) Compatibilized blend
10. Polymer alloy is an _____ blend having modified interface and/or morphology
 a) Miscible blend b) Immiscible blend c) LCP d) compatibilized blend
11. Composite materials are classified on the basis of
 (a) Type of matrix (b) Size-and-shape of reinforcement (c) Both (a) & (b) (d) None of these
12. Which of the following are natural fibers?
 (a) Jute (b) Coir (c) Hemp (d) All of these
13. Thermoset polymers show which of the following traits _____
 (a) Decompose on Heating (b) Soften on Heating (c) Harden on Heating (d) None of the above.
14. Matrix is also known as _____
 (a) Binder material (b) Crosslinker (c) Interface (d) Thermosetting material
15. Phenol formaldehyde resin is commercially known as
 (a) PVC b) Bakelite (c) nylon (d) Teflon
16. Roving consists of _____
17. Nano-particles are classified on the basis of _____
18. Reinforcement imparts _____ to the polymeric material.
19. Impact modifiers are also known as _____
20. Fibers impregnated with partially cured TS resins to facilitate shape processing are called _____
21. Composite manufacturing methods are Slow and costly. Say true or false.
22. Filament winding is not a composite manufacturing process. Say true or false.
23. Isotactic, atactic and syndiotactic polymers are the form of stereoisomerism. Say true or false
24. Filament winding involves the use of continuous filaments for winding:.. Say true or false
25. Spray-up is a closed mold process of fabrication of composites. Say True or false
26. SMC stands for _____
27. Expand FRP _____
28. Expand DIOP _____
29. Expand ATH _____
30. PPO stands for _____

PART – B

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

4 x 2 = 8

1. Define plasticizers with example.
2. Define Bleeding & Blooming.
3. Define pultrusion technique. Give one example.
4. Give examples of natural fibres.

PART – C

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

4 x 3 = 12

1. Define Polymer additives and classify and explain briefly.
2. Write a short note on Polymer alloys with example.
3. Write down the application of composites in aerospace.
4. What are conductive additives? Explain with example:
5. Explain briefly factors affecting polymer blending.

PART – D

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

2 x 5 = 10

1. Explain the parts and functions of Banbury mixer with neat sketch.
2. What are Nano fillers? Classify Briefly with example.
3. Explain the function and technical requirements for various additives. Describe important additives used in PVC compounding.

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FOURTH SEMESTER EXAMINATION – JULY 2022

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

Max. Marks: 60
 Date : 08.07.2022
 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

30 x 1 = 30

1. The Flexural Strength test results depends on _____ factors.
 a) Temperature b) Humidity c) Rate of Straining d) All the above
2. Depth of notch for Izod Impact test as per ASTM method is _____.
 a) 0.001inch b) 0.1inch c) 1 inch d) 0.0001 inch
3. Select the appropriate melting point for Nylon 6.
 a) 164 °C. b) 136 °C. c) 327 °C. d) 223 °C.
4. Which among the following tests is example for long term test?
 a) Tensile strength b) Hardness c) Creep d) All the above
5. Which among the following methods is used for measuring Charpy Impact strength?
 a) ASTM D256 b) ASTM D6110 c) ASTM D648 d) ASTM D638
6. The unit of Izod Impact Strength is _____.
 a) J/m b) kg/m³ c) J-cm d) Ω cm
7. The unit of Density is _____.
 a) Kg/mm °C b) KJ/mm c) kg/m³ d) No unit
8. Which of the following test method is used for the HDT test?
 a) ASTM D256 b) ASTM D790 c) ASTM D542 d) ASTM D648
9. Which among the following test is used for Flexural strength?
 a) ASTM D638 b) ASTM D790 c) ASTM D256 d) ASTM D 618
10. Unit of Modulus of Elasticity is _____.
 a) lb/in² b) kgf/cm² c) N/mm² d) All above
11. The ASTM Standard used for testing Shear Strength is _____.
 a) ASTM 1525 b) ASTM 1693 c) ASTM D732 d) ASTM D 1238
12. Which of the following is surface related property?
 a) Hardness b) Stress relaxation c) Shear Strength d) None of the above
13. Which among the following tests are used for determination of impact strength of plastics?
 a) Izod Impact b) Charpy Impact c) Falling weight impact d) All of the above
14. ASTM D1238 is the standard test method for _____?
 a) Tensile strength b) Flexural Strength c) Shear Strength d) MFI
15. Which among the following test is used for VST?
 a) ASTM 1525 b) ASTM 1693 c) ASTM D 732 d) ASTM D570
16. ASTM standard for conditioning of Plastics is _____.
17. Unit for Heat Deflection Temperature is _____.
18. Solvent used for determination of Viscosity and K-value of PVC is _____.
19. As MFI increase viscosity of the material _____.
20. Copper wire test is carried for identification of _____ material.
21. Area under stress strain curve is directly proportional to toughness- True or False.
22. All polymers dissolves in all solvent at room temperature- True or False.
23. Two-point bending and Three-point bending test are used for flexural strength test- True or False.
24. Tensile strength of Plastics is not affected by Humidity- True or False.
25. Impact strength of plastics does not depend on lab temperature-True or False.
26. What is full form of ASTM?
27. What is full form of CLTE?
28. What is full form of IEC?
29. What is full form of DSC?
30. What is full form of BIS?

PART – B

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

4 x 2 = 8

1. What is significance of Density test?
2. Define Yield Point.
3. What are the different types of Hardness test?
4. What is Stress relaxation?

PART – C

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

4 x 3 = 12

1. Explain the principle of TGA and write two applications of TGA.
2. Write short note on Abrasion test of plastics.
3. Explain importance of Burning test for Identification of Plastics.
4. What are the various methods to prepare tensile specimens?
5. Explain the test method for VST of plastics.

PART – D

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

2 x 5 = 10

1. Explain about the test method for determination of Coefficient of Thermal Conductivity (K).
2. Explain the step by step procedure for Identification of Plastic.
3. Explain the DSC and its applications in polymer characterization.
