

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

Duration : 3 Hours
Course : PGD - PPT
Subject : Plastics Materials –III

Max. Marks: 60
Date : 08.01.2024
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

- Which one of the polymer has the maximum strength?
(a) Phenolic (b) Epoxy (c) Polyester (d) Polyimide
- Curing may be accomplished by_____.
(a) At room temperatures (b) In ovens (c) with vacuum bag molding (d) all the above
- Which of the following is not an example of an organic fiber?
(a) Polyester (b) Glass (c) Nylon (d) Aramid
- A miscible polyblends exhibits a single Glass Transition Temperature (T_g). Say True or False.
- Diluents are used to decrease the viscosity. Say True or False.
- E-caprolactam is the monomer for Nylon 66. Say True or False.
- Additives which assist processing are_____
- A typical range of carbon content in carbon fiber is _____
- Impact modifiers are also known as_____.
- Expand SMC
- Expand RRIM
- Expand FRP

PART – B

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

4 x 2 = 8

- Define Polymer Alloy. Give one example.
- Give any four applications of polymer composites.
- What are Flame Retardants? Give one example.
- Name any two additives for recycling?

PART – C

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

6 x 4 = 24

- What are fibers? Classify with example.
- Explain Vacuum bag molding with a neat sketch.
- What are the technological requirement of additives?
- Write a Short Note on a) Lubricant b) UV stabilizer
- Differentiate between polymer blends and Alloys?
- What are the methods of polymer Blending? Explain briefly.
- Explain briefly about PP-EPDM blends

PART – D

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

2 x 8 = 16

- Explain PVC Compounding for rigid pipes with the help of High-speed mixer? Explain briefly.
- Explain the parts and functions of Banbury mixer with a neat sketch.
- Write short note on Polymer Composites.

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ACADEMIC CELL
THIRD SEMESTER EXAMINATION – JANUARY - 2024

Duration : 3 Hours
Course : PGD - PPT
Subject : Plastics Processing Techniques-III

Max. Marks: 60
Date : 09.01.2024
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

- In the thermoset moulding the screw root is
a. Tapered b. Straight c. First Tapered then straight d. None of these.
- Blowing agent used in structural foam moulding is
a. Azodicarbonamides b. Citric Acid Ester c. Sodium Bicarbonate d. All of these.
- Multi-material And Multi-Colour Moulding is also called as
a. Multi-shot injection molding b. Over-molding c. 2k-injection Moulding d. All of these.
- In the FRP Pultrusion method _____ fibres are used.
- All Electric machine used in _____ motors.
- In the thermoset processing screw L/D ratio _____ is generally used.
- Structural foam moulding is a Low-pressure process. Say True / False.
- Hand layup moulding is high capital investment. Say True / False.
- Thermoset resins are permanently chemical bonded after the process. Say True / False.
- Expand the abbreviation of BMC _____.
- Abbreviate DAP _____.
- Write an abbreviation of MSW _____.

PART – B

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

4 x 2 = 8

- List out the open moulding FRP process?
- Define vacuum bag moulding?
- Define the Incineration process in plastic waste management?
- Write the name of physical blowing agents used in structural foam moulding process?

PART – C

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

6 x 4 = 24

- Write down the basic principle of mechanical recycling with neat sketch?
- Briefly explain about Application of robotics in part handling?
- Write down any three causes & remedies of closed moulding process?
- Write the advantages & disadvantage of chemical recycling process?
- Briefly explain about thin wall product moulding process?
- Briefly explain about automated conveyor system used in plastic industry?
- Explain about thermoset injection moulding process?

PART – D

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

2 x 8 = 16

- Explain about mixed waste recycling process with neat sketch.
- Explain about spray up method with neat sketch and write any two causes & remedies.
- Explain about gas assisted injection moulding process with neat sketch.

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ACADEMIC CELL
THIRD SEMESTER EXAMINATION – JANUARY - 2024

Duration : 3 Hours
Course : PGD - PPT
Subject : Plastics Testing-III

Max. Marks: 60
Date : 10.01.2024
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 tensile strength of Polyethylene film is less in lengthwise direction as compared to crosswise direction . Say True/ False
2. The value of sulphated ash content in the UPVC pipe tested as per IS 4985 shall not exceed ____
3. The flexural modulus of the wall of the water storage tank shall not be less than _____ as per IS 12701.
a) 100 N/mm² b) 200 N/mm² c) 150 N/mm² d) 300 N/mm²
4. Expand GC
5. The Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances is ____
6. High Oxygen Index is indicative of a -----easily ignited and -----flammable material,
a) less, less b) high, less c) high, high d) less, high
7. The UL – 94 burning test requirements for V-0 are: burning stops within 10 seconds on a vertical specimen; and drips allowed. Say True/ False
8. Expand NFPA.
9. is a planar defects
a) Rolling b) Voids c) Ovality d) Fatigue cracks
10. Measuring the defects & thickness of a sample by applying resonant frequency is called Ultra Sonic Technique. Say True/ False
11. Surface & sub surface defects in a ferromagnetic material can be found by
a) Magnetic particle testing b) Radiography c) Optical Ins d) all the above
12. The cut image of the sample is known as _____

PART – B

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

4 x 2 = 8

1. What is Bulk Density?
2. List out the acceptance test for HDPE material as per IS 4984
3. Draw fire triangle
4. List out the different method to measure the surface defects of plastics products

PART – C

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

6 x 4 = 24

1. Write short notes on method of test for length, width, ends and picks per dm for woven sacks.
2. Explain in detail about the top load resistance test for the water tank.
3. Explain carbon black content for the HDPE pipe
4. What is Limited Oxygen Index Test? Explain in detail.
5. Explain the types of defect detected by using NDT.
6. Write short notes on X-ray Fluorescence
7. Write short note on UL 94 for thin material

PART – D

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

2 x 8 = 16

1. Write down the test to be carried out for PVC pipe and explain in detail
2. Explain in detail about the ultra-sonic method & its application in plastics
3. Explain the test procedure for Flammability of Cellular Plastics.

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HEAD OFFICE : GUINDY, CHENNAI – 600 032.
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THIRD SEMESTER EXAMINATION – JANUARY - 2024

Duration : 3 Hours
Course : PGD - PPT
Subject : Communication Skills in English

Max. Marks: 60
Date : 11.01.2024
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. What completes the communication process?
a. Sender b. Receiver c. Language d. Feedback
2. Who does the decoding?
a. Message b. Sender c. Receiver d. None of these
3. I bought a **beautiful** dress at the mall.
a. Preposition b. Adjective c. Noun d. Verb
4. The bed and breakfast ____ charming.
5. One of the important _____ discussed in the meeting yesterday.
6. _____ book is better than the other.
7. Correct body language is important in a telephonic conversation say True or False
8. A good debate topic only has one correct side. say True or False
9. Every organization has a social responsibility. say True or False
10. In email correspondence, what does the abbreviation "CC" typically stand for?
11. What does "SMS" abbreviate?
12. In technical email etiquette, what does the abbreviation "FYI" commonly signify?

PART – B

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

4 x 2 = 8

1. What is a technical letter?
2. Explain simple and complex sentences ?
3. Explain visual charts ?
4. Define parts of speech ?

PART – C

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

6 x 4 = 24

1. Write difference between Business correspondence and Official correspondence?
2. Explain verbal & non-verbal communication?
3. Write a note to employees of your organization who have habit of taking frequent breaks during working hours.
4. Write a note on precise writing?
5. Give antonyms of the following
a. monarchy b. disparate c. Tactful d. Opaque
6. Frame sentences using the following Idioms and Phrases.
a. A black sheep
b. Look before you leap
7. Change the voice for the following sentences:-
a. The chef prepared a delicious meal for the guests.
b. She wrote an inspiring book about her life.

PART – D

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

2 x 8 = 16

1. A.P. J. Abdul Kalam was a multifaceted personality, a statesman and visionary and above all a good human being. He was a brilliant scientist and modern thinker. When I joined him as Press Secretary after ten days of his becoming President, at his very first meeting he gave me his vision of a developed India. President Kalam took his Presidency seriously from day one. He was committed to nation-building and created a vision document to make India a developed nation by 2020. He was an icon for the youth. He used to say “Aiming small is a crime. Youth should have the courage to think differently and explore unexplored paths. He was adored by children as he would give them easy-to-digest messages. Difficulties would come but don’t be afraid of them—overcome them with your intellect and hard work.” The man who pioneered India’s missile programme was always proud of his work at the Indian Space Research Organisation and other scientific institutions. He used to believe that a scientific approach could find a solution to every problem. We should strive to achieve this connectivity and transform religion into spirituality. For him religion and morality were the same. A man of vision, he always worked in mission mode. He had a mission to meet 10 lakh students and interact with them. He completed this when he left Rashtrapati Bhavan. He continued with this till his last breath. His child-like simplicity was an instant hit. He got the sobriquet of being the People’s President because of his humility and accessibility.

On the basis of your understanding of the passage answer the following questions.

- a. Explain in a single word the many qualities of A.P.J. Abdul Kalam?
- b. Which of the qualities made Dr. Kalam loved by children?
- c. What is the title given to Dr. A.P.J. Abdul Kalam?
- d. He was an _____ for the youth

2. Bharat Industries from 103, GIDC, Baroda wants to purchase an industrial tool from Giant Tools Firm, M G Road, Mumbai. On behalf of Bharat Industries, you are given the responsibility to write a letter of inquiry regarding the industrial tool. Draft the letter.

3. Describe the various technical aspects of mobile phone in a technical report with diagram.

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THIRD SEMESTER EXAMINATION – JANUARY - 2024

Duration : 3 Hours
Course : PGD - PPT
Subject : Industrial Management & Entrepreneurship

Max. Marks: 60
Date : 12.01.2024
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

- 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
- Which of the following are methods of training?
a) Demonstration b) Lectures c) Conferences/Seminar d) All of the above
- What is the Japanese term for error-proofing.
a) KANBAN b) KAIZEN c) POKA-YOKE d) none of the above
- 'Planning' is the _____ function of management.
- The letter 'R' in HRM stands for _____
- _____ is known as the father of Scientific Management.
- Sales – Cost of goods sold is equal to Profit or Loss. True / False
- A Systematic evaluation of an employee's performance on the job is called "Merit Rating".
True / False
- GST is a direct tax. True / False
- S.W.O.T. stands for _____
- I.S.O. stands for _____
- T.Q.M. stands for _____

PART – B

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

4 x 2 = 8

- What do you understand by 'Quality'?
- What is 'Motivation'?
- What is JIT system of inventory?
- Explain 'Participative Leadership Style'?

PART – C

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

6 x 4 = 24

- What are the benefits of ISO 9000 registration?
- Explain "Quality of Design" and "Quality of Conformance".
- What is Entrepreneurship? Mention any 4 qualities of entrepreneur.
- Distinguish between formal & informal communication.
- What is training. Describe various methods of training.
- Explain the 5s principal of TQM.
- Explain the various types of Organizational Structure.

PART – D

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

2 x 8 = 16

- What do you mean by Attitude. Explain in detail the various components of Attitude.
- What are the different steps to start a Small-Scale Industry.
- Briefly explain the 14 Principles of Management given by Henri Fayol.
