

- Q.30 State advantages of Twin-screw extruder.
 - Q.31 What are anti static agents? Explain with example.
 - Q.32 What are flame retardants? Why they are needed.
 - Q.33 What are anti block additives. Explain with example.
 - Q.34 Explain lubricants with examples.
 - Q.35 Discuss role of various ingredients in any thermoset formulation.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain construction, working principle of mixer extruder. Also draw a labeled diagram.

Q.37 Discuss :

 - UV - stabilizers
 - Impact modifiers

Q.38 Write short note on :

 - Ribbon blender.
 - Fungicides, bacteriocides and anti-termite additives.

No. of Printed Pages : 4
Roll No.

127055/032255

5th Sem / Branch : Plastic Engineering/Chemical Engg. (Spl. Polymer Engg)

Sub. : Polymer Compounding & Formulation

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Wood flour and silica flour are examples of _____.
a) Fillers b) Plasticizers
c) Stabilizers d) Lubricants

Q.2 Which polymer additives are added to improve flexibility?
a) Lubricants b) Plasticizers
c) Stabilizers d) Reinforcements

Q.3 _____ prevent moulded article from sticking to the fabrication equipment.
a) Catalyst
b) Fillers
c) Lubricants
d) Anti-Blocking agents

Q.4 _____ is used to improve the thermal stability during polymerisation.
a) Accelerators b) Colouring materials
c) Stabilizers d) Lubricants

Q.5 Which of the following is an examples of a flame

retardant?

- a) Benzophenones
- b) Polyvinyl chloride
- c) Titanium dioxide
- d) Antimony oxide

Q.6 Which polymer additive is used for easy removal of product from molds?

- a) Plasticizers
- b) Stabilizers
- c) Lubricants
- d) Reinforcements

Q.7 Which is an example of anti-slip agent?

- a) ZnO
- b) Euracamide
- c) PbO
- d) Borates

Q.8 DOP stands for _____

- a) Di-octyl phthalates
- b) Di-octyl plastic
- c) Di-octane phthalates
- d) None of the above

Q.9 Carbon fiber is an example of _____

- a) Filler
- b) Stabilizer
- c) Reinforcement
- d) Flame retardant

Q.10 _____ is an example of blowing agent.

- a) H_2SO_4
- b) HCl
- c) H_2O
- d) All of these

SECTION-B

Note: Objective type questions. All questions are compulsory. $(10 \times 1 = 10)$

Q.11 Give an examples of lubricant used in plastic compounding.

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Q.12 Give an example of UV stabilizers.

Q.13 Antimony oxide is an example of _____.

Q.14 Calcium carbonate is an example of _____.

Q.15 _____ is an example of blowing agent.

Q.16 Give an example of antioxidant.

Q.17 Expand D.O.P.

Q.18 Give an example of heat stabilizer.

Q.19 Name two solvents used in plastic compounding.

Q.20 _____ is an example of solvent used in plastic compounding.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. $(12 \times 5 = 60)$

Q.21 How does talc and mica dust affect the properties of plastic?

Q.22 Explain principle of compounding.

Q.23 Explain blowing agents and their types.

Q.24 Discuss role of compounding in enhancing the properties and applications of plastics.

Q.25 What are anti-oxidants? Explain their importance.

Q.26 Write difference between compounding and mixing.

Q.27 Explain working principle of intensive dry mixer.

Q.28 Describe the compounding of PVC for semi rigid application.

Q.29 Explain the function of plasticizers and chain extenders in plastics.

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