

## **SECTION-D**

No. of Printed Pages : 4

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Roll No. ....

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

**Q.23** Write short note on :

- a) Conducting Polymers
- b) Polymers concrete

**Q.24** Explain properties and applications of thermoplastic.

- a) Poly urethane Elastomers
- b) Polyamide block copolymer

**Q.25** Discuss :

- a) Effect of fibre reinforcement on strength of plastics.
- b) Concept of Nano-composite polymers

Time : 3 Hrs.

M.M. : 60

## **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

**Q.1** PES stands for \_\_\_\_\_.

- a) Poly ethyl sulphide
- b) Poly ethyl sulphur
- c) Poly ether sulphones
- d) polyester ethyl sulphide

**Q.2** Which material used for non-stick coating?

- a) PS
- b) PES
- c) PTFE
- d) PEEK

**Q.3** FRP stands for \_\_\_\_\_.

- a) Fibre recycled plastic
- b) Filled reinforced polymer
- c) Fibre reinforced plastic
- d) None of the above

Q.4 Which of the following is an example of inter penetrating network (IPN)?

- a) PVC-Nitrile Rubber
- b) PP-EPDM
- c) PVC-ABS
- d) None of the above

Q.5 Silanes & Titanates are the example of \_\_\_\_\_.

- a) Reinforcing Fillers b) Coupling agents
- c) resin substance d) None of the above

Q.6 \_\_\_\_\_ is the fibre commonly used in FRP.

- a) Glass b) Boron
- c) Kevlar d) All of them

### SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory.  $(6 \times 1 = 6)$

Q.7 State two applications of conducting polymers.

Q.8 Name two high performance polymers.

Q.9 Give two application of styrene block copolymer

Q.10 Expand -- P.E.E.K

Q.11 What is the role of binder in FRP?

Q.12 Give two food packaging application of plastics.

### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions.  $(8 \times 4 = 32)$

Q.13 State four advantage of polymer blending ?

Q.14 Discuss properties and application of PTFE

Q.15 Give properties and applications of PPO material

Q.16 Explain role and importance of coupling agents

Q.17 Discuss various types of fibres used in FRP industry.

Q.18 Discuss PVC-Nitrile rubber blend.

Q.19 Give properties and characteristics of LCP.

Q.20 Explain compatibilizers and their role.

Q.21 Discuss various application where polymer membranes are used.

Q.22 Explain properties and application of thermoplastic poly olefins.