315358

12526

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following : **10**

a) Define waste and waste management.

b) List any two sources of polymer waste.

c) Define the 4 R's of waste management.

d) State any two collection methods of polymer waste.

e) Define is cryogenic fine grinding.

f) State four applications of recycled PET.

g) Enlist any four uses of recycled ABS.

2. Attempt any THREE of the following : **12**

a) Describe domestic and industrial polymer waste with their examples.

b) Explain the steps involved in polymer waste management.

c) Explain the process of curbside and drop-off collection of polymer waste.

d) Explain the working of rotary kiln incinerator.

P.T.O.

Marks

3. Attempt any THREE of the following : **12**

a) Describe the types of pollutants with examples.

b) Explain with neat figure the area landfilling technique.

c) Describe the working of Material Recovery Facility (MRF).

d) Explain any four applications of recycled Nylon and Polyurethane (PU).

4. Attempt any THREE of the following : **12**

a) Explain with neat figure the air classifier used for separation of waste polymers.

b) Describe the melt spinning process in secondary recycling with neat figure.

c) List any four applications of recycled PS and HDPE.

d) State any four applications of recycled PVC and recycled LDPE.

e) Enlist any four applications of recycled PP and recycled mixed polymers.

5. Attempt any TWO of the following : **12**

a) Describe trench landfilling technique with neat figure.

b) Explain with neat figure the separation of waste polymers by magnetizability.

c) Describe hydrolysis of waste polymers.

6. Attempt any TWO of the following : **12**

a) Explain tests used to measure resistance of polymers to bacteria.

b) Explain with neat figure the separation of waste polymers by thermal property.

c) Describe various size reduction techniques with neat figure.
