17655

16117

3 Hours / 100 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **20**

a) State any four hazards which occurs due to accumulation of waste.

b) Explain with a diagram the area method of landfilling.

c) Describe collection system of waste plastics.

d) Write any four applications of recycled PET.

e) Define the terms 'Biodegradation' and 'Degree of Biodegradability'.

f) Explain any four ways to control the pollution.

g) Explain lift and redirecting separator with a diagram.

Marks

2. Attempt any TWO of the following: **16**

a) Enlist any four sources of waste. Explain it with examples.

b) Explain with a diagram incineration of waste plastics.

c) (i) Explain with a figure the recycling of PVC.

(ii) Where is recycled PVC used ?

3. Attempt any TWO of the following: **16**

a) Explain with a diagram the pyrolysis of waste plastics. Give specific examples.

b) Explain with a figure, the mechanism of enzymatic biodegradation of waste plastics.

c) (i) Define an 'elastomer' where in elastomeric waste used ?

(ii) Explain with a figure the recycling of elastomeric waste.

4. Attempt any TWO of the following: **16**

a) Describe with a diagram give the gasification of waste plastics.

b) Explain any four advantages and limitation of biodegradable plastics.

c) Explain with a diagram the recycling of any one polyolefin.

5. Attempt any TWO of the following: **16**

a) Explain hydrocyclone with a diagram for separation of waste plastics.

b) Describe the test method for measurement of resistance of plastic to bacteria.

c) (i) Define 'recycling'.

(ii) Describe with a diagram the recycling of PET bottles.

Marks

6. Attempt any FOUR of the following: **16**

a) Explain the terms ‘waste’ and ‘waste management’.

b) Explain zigzag sorter for waste plastics.

c) Explain with examples, use of ‘stabiliser’.

d) Explain the terms ‘physical’ and ‘chemical’ recycling.

e) Describe separation of waste plastic by gravity.

f) Why is impact modifiers dare during processing ? List any four impact modifiers.