

Scheme – I
Sample Question Paper

Program Name : Diploma in Plastic Engineering

Program Code : PS

Semester : Fourth

Course Title : Environmentally Sustainable Plastic Technologies

Marks : 70

22453

Time: 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) A) Attempt any FIVE of the following.

10 Marks

- (a) Define waste.
- (b) State 4 R terminologies in case of plastic waste.
- (c) Define Biodegradation.
- (d) Name any four collection methods for plastic waste.
- (e) Define recycling of plastic waste.
- (f) State any four applications of recycled PET.
- (g) Enlist any four sources of waste water.

Q.2) Attempt any THREE of the following.

12 Marks

- (a) Explain the need of plastic waste management.
- (b) Suggest and explain the method for dumping of the waste plastic.
- (c) Explain with neat figure the sorting method of waste plastic based on their size.
- (d) Explain with neat figure the shredding of waste plastic by impact and shearing method.

Q.3) Attempt any THREE of the following.

12 Marks

- (a) Explain the test method to measure the resistance of plastic to fungi.
- (b) State any four additives which are used to improve the properties of plastic waste with their functions.
- (c) Explain with neat figure granulation process of waste plastic.
- (d) Explain any four applications of recycled HDPE.

Q.4) Attempt any THREE of the following. 12 Marks

- (a) Suggest the recycling codes for identification of the plastic material.
- (b) Suggest and explain any one process for recovery of monomers from waste plastics.
- (c) Explain any four applications of recycled PVC.
- (d) Explain with neat figure the structure of ecosystem.
- (e) State any four applications of recycled PS.

Q.5) Attempt any TWO of the following. 12 Marks

- (a) Suggest and explain four sources of waste with suitable examples.
- (b) Explain with neat figure the float-sink method for separation of waste plastic.
- (c) State any three applications of recycled ABS and recycled nylon.

Q.6) Attempt any TWO of the following. 12 Marks

- (a) Explain the terms primary, secondary, tertiary and quaternary recycling.
- (b) Suggest and explain the method of plastic waste management which is used to recover the thermal energy.
- (c) Explain the causes, effects and control measures of air pollution.

Scheme – I
Sample Test Paper - I

Program Name : Diploma in Plastic Engineering

Program Code : PS

Semester : Fourth

Course Title : Environmentally Sustainable Plastic Technologies

Marks : 20

22453

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) Attempt any FOUR of the following.

08 Marks

- a) Define waste and waste management.
- b) Define pollution and pollutant.
- c) Name any four sources of plastic waste.
- d) Enlist 4 R terminologies in plastic waste.
- e) Define landfilling.

Q.2) Attempt any THREE of the following.

12 Marks

- a) Explain the need of plastic waste management.
- b) Explain the types of pollutants with examples.
- c) State four properties and four applications of PHA.
- d) Explain Primary and secondary recycling with examples.

Scheme – I
Sample Test Paper - II

Program Name : Diploma in Plastic Engineering

Program Code : PS

Semester : Fourth

Course Title : Environmentally Sustainable Plastic Technologies

Marks : 20

22453

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) Attempt any FOUR of the following.

08 Marks

- a) Define hydrolysis and glycolysis.
- b) Enlist any four applications of recycled PET.
- c) Define quaternary recycling.
- d) State any four applications of recycled PP.
- e) Define pyrolysis.

Q.2) Attempt any THREE of the following.

12 Marks

- a) Explain with neat figure the melt processing of waste plastic.
- b) Suggest the recycled material used as building and construction products with their four properties.
- c) Explain gasification of waste plastics with neat figure.
- d) Explain granulation process of waste plastics with neat figure.