Scheme – I

Sample Question Paper

Program Name : **Diploma in Plastic Engineering**
Program Code : **PS**
Semester : **Fifth**
Course Title : **Fibre Technology (Elective-I)**
Marks : **70**

22553

Time: 3 Hrs.

Instructions:

1) All questions are compulsory.
2) Illustrate your answers with neat sketches where 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 five of the following. **10 Marks**

a) Classify fibres.

b) State the molecular requirement of fibre forming polymer.

c) List stages in synthesis of synthetic fibre.

d) Identify the fibre forming polymer for - i) Woven sack, ii) Fabric.

e) State any two limitations of cellulosic fibre.

f) Name the processes used to make acrylic fibres.

g) State the important characteristics of graphite fibre.

Q.2) Attempt any three of the following. **12 Marks**

a) State advantages and limitations of synthetic fibres.

b) Elaborate post spinning operations in melt spinning.

c) Describe dry spinning process with neat sketch.

d) Explain the production method of PET staple fibres.

Q.3) Attempt any three of the following. **12 Marks**

a) Elaborate melt spinning line with neat sketch.

b) Explain the development of fibre structure and morpohology.

c) Describe LOY spinning process for Nylon 66.

d) Justify the selection of carbon fibre for manufacture of aircraft components.

Q.4) Attempt any three of the following. **12 Marks**

a) Compare natural fibres with synthetic fibres on the basis of their properties.

b) Explain the purpose and process of spin finish application.

c) Describe the steps in dry jet wet spinning.

d) Explain the stress-strain behavior of PET fibres.

e) State the properties and applications of Aramid fibres.

Q.5) Attempt any two of the following. **12 Marks**

a) Elaborate steps in dry spinning process alongwith post spinning operations.

b) Describe Tow processing and Gel spinning of Acrylic fibre.

c) Explain the manufacturing, properties and applications of glass fibre.

Q.6) Attempt any three of the following. **12 Marks**

a) Explain the manufacturing, properties and applications of modified cellulosic fibre.

b) State the properties, limitations and applications of PP fibre.

c) Describe manufacturing, properties and applications of aromatic polyester fibre.

Scheme – I

Sample Test Paper - I

Program Name : **Diploma in Plastic Engineering**
Program Code : **PS**
Semester : **Fifth**
Course Title : **Fibre Technology (Elective-I)**
Marks : **20**

22553

Time: 1 Hour.

Instructions:

1) All questions are compulsory.
2) Illustrate your answers with neat sketches where 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) State any two examples each of natural and synthetic fibres.

b) Justify the need of finish application in fibre making.

c) List process variables for solution spinning.

d) State the molecular requirement for fibre forming polymer.

e) State limitations of natural fibres.

Q.2) Attempt any three of the following. **12 Marks**

a) Compare natural fibres with synthetic fibres.

b) Elaborate cooling system in melt spinning.

c) Explain the preparation of dope in dry spinning.

d) Explain the steps in dry jet wet spinning process.

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Semester : **Fifth**
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Marks : **20**

22553

Time: 1 Hour.

Instructions:

1) All questions are compulsory.
2) Illustrate your answers with neat sketches where 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) Justify the need of modification in cellulosic fibre.

b) List down the processes used to make acrylic fibres.

c) State the precursors used to make carbon fibre.

d) Justify – 'Glass fibres are widely used in making composites'.

e) Suggest fibre forming polymer for - i) Toothbrush bristles, ii) Fishing net.

Q.2) Attempt any three of the following. **12 Marks**

a) Explain the problems and their causes in PET staple fibers.

b) State the properties and applications of Nylon fibres.

c) Describe the manufacturing process for aramid fibres.

d) State the properties and applications of modified cellulosic fibre.
