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TED (10) – 3091

Reg. No.

(REVISION — 2010)

Signature

FOURTH SEMESTER DIPLOMA EXAMINATION IN POLYMER
TECHNOLOGY — MARCH, 2015

POLYMER PROCESSING METHODS AND MACHINERY

[Time : 3 hours

(Maximum marks : 100)

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. What is master batching ?
2. Name two safety devices used in open roll mills.
3. Define casting.
4. What is profile calendaring ?
5. What are dual extruders ? Why are they used ? (5×2=10)

PART—B

(Maximum marks : 30)

II Answer any five of the following questions. Each question carries 6 marks.

1. What are the factors affecting the mixing time in a Banbury mixer ? Explain.
2. Compare an open roll mixer with a Banbury mixer.
3. Compare compression moulding with transfer moulding.
4. Explain the process of plug assisted thermo forming with a neat sketch.
5. Explain the process of sketch blow moulding with a neat sketch.
6. Compare the process of spreading with calendaring with the help of line sketch.
7. Describe roll cambering and roll crossing with neat sketches. (5×6=30)

PART—C

(Maximum marks : 60)

(Answer one full question from each unit. Each full question carries 15 marks.)

UNIT—I

- III (a) Explain with a neat sketch the main parts of an open roll mill. 8
- (b) Explain with a neat sketch the working and parts of a Farrel continuous mixer. 7

OR

	Marks
IV (a) Explain with a neat sketch in various parts of a Francis – Shaw intermix.	8
(b) Explain with a neat sketch the working of an MVX mixer.	7

UNIT—II

V (a) Explain with a neat sketch the process of rotational moulding.	8
(b) Explain with a neat sketch the process of pressure forming and free forming.	7

OR

VI (a) Explain with a neat sketch the working of a reciprocating screw injection moulding machine.	8
(b) Explain with a neat sketch the process of plunger transfer moulding.	7

UNIT—III

VII (a) Describe the process of double nip coating with a neat sketch.	8
(b) Explain the process of frictioning and topping with line sketch.	7

OR

VIII (a) What is blow moulding ? Explain the process and give examples for blow moulded products.	8
(b) What are supported and unsupported sheets ? How are they produced ?	7

UNIT—IV

IX (a) What are hot feed and cold feed extruders ? With neat sketches explain both of them.	8
(b) Explain briefly the features of a calendar and name the important accessories in a calendar production line.	7

OR

X (a) With a neat sketch explain the parts of a Ram extruder.	8
(b) What is roll deflection ? Explain the methods of correction with neat sketches.	7