



NCE-003-045403 Seat No. _____

**B. Voc. (Chemical Technology) (Sem. IV)
(CBCS) Examination**

April / May - 2017

BVCT - 403 : Polymer Technology

Faculty Code : 003

Subject Code : 045403

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Instructions : (1) All questions are compulsory & carry equal marks.

(2) Draw diagram and/or scheme wherever necessary.

1 (A) Answer the following questions : 10

- (1) Define : (1) Mixing (2) Extrusion
- (2) What is Polymer Compounding?
- (3) Enlist the types of blade used in kneader.
- (4) Give the full form (i) CSTR (ii) PFR
- (5) Enlist the classification of molding.
- (6) Draw the structure of Hevea and Gutta Percha.
- (7) What is ebonite?
- (8) What is rubber latex?
- (9) Define the term: Strain
- (10) In S.I. system, the impact strength is expressed in _____ unit.

(B) Answer the following multiple choice questions : 20

- (1) Explain briefly: transfer molding.
- (2) Give any two Advantages and Disadvantages of the Emulsion polymerization.
- (3) Describe Plug flow reactor in brief.

- (4) Explain kneader equipment in brief.
- (5) Give short explanation about Spinning process with diagram.
- (6) Give specimen specification of impact strength testing for plastic.
- (7) How will you refine crude rubber?
- (8) Illustrate the uses of adhesive.
- (9) Enlist applications of poly tetrafloro ethylene.
- (10) Give specimen specification of compressive strength.

2 Answer any 4 out of the following 6 questions : **20**

- (1) Explain Extruder in detail.
- (2) Give brief explanation about polymer foams.
- (3) Describe Bulk polymerization in detail.
- (4) Explain basic approach for tensile strength measurement.
- (5) A polymer has 15 moles of 50000 molecular weight and 6 moles of 6300 molecular weight, calculate number average molecular weight and weight average molecular weight.
- (6) How will you measure the compressive strength of plastic material?

3 Answer any 4 out of the following 6 questions : **20**

- (1) Explain Blow molding with diagram.
- (2) Describe Solution polymerization in detail.
- (3) Give brief account of polymer films.
- (4) Explain silicon rubber.
- (5) How will you prepare rubber based adhesive? Give detailed stepwise procedure.
- (6) Explain the process for synthesis of styrene butadiene rubber.