



MAO-003-045403

Seat No. _____

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

March / April - 2018

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

- 1 (a) Answer the following questions : **10**
- (1) What is Rubber?
 - (2) Explain the following terms :
 - (a) adherent
 - (b) adhesion
 - (3) Enlist the classification of polymerization.
 - (4) Enlist polymer molding technique.
 - (5) ASTM D695 is useful for _____
 - (6) What is ebonite?
 - (7) Which equipments are used for Mixing and Compounding?
 - (8) Draw the structure of monomer of natural rubber.
 - (9) Enlist the types of blade used in Kneader.
 - (10) Define the term: Fracture Strength.
- (b) Answer the following multiple choice questions : **20**
- (1) Illustrate any four properties of adhesive.
 - (2) Explain kneader equipment in short.
 - (3) What is plastic deformation?
 - (4) Give short explanation about injection molding.
 - (5) Give any two advantages and disadvantages of the solution polymerization.

- (6) Describe continuous stirred tank reactor in short.
- (7) Enlist factors affecting on tensile strength of plastic material.
- (8) Write the structure of following polymer :
 - (a) polyvinyl acetate
 - (b) polypropyleneGive any four properties of vulcanized rubber.
- (9) Illustrate factors affecting on compressive properties of plastic material.
- (10) Write equation for number-average molecular weight and weight - average molecular weight.

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

- (1) Explain spinning process with diagram.
- (2) Give brief explanation about polymer films.
- (3) Describe emulsion polymerization in detail.
- (4) Explain extruder in detail.
- (5) Describe bulk polymerization in detail.
- (6) Give brief explanation about polymer foams.

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

- (1) Explain in detail: chlorinated rubber.
- (2) How will you measure impact strength testing of plastics ?
- (3) How will you measure the compressive strength of plastic material?
- (4) Give process for measurement of flexural strength for plastic material.
- (5) Give process for synthesis of styrene butadiene rubber.
- (6) How will you measure tensile strength of plastic material?