

## SIXTH SEMESTER DIPLOMA EXAMINATION IN POLYMER TECHNOLOGY

QUALITY ASSURANCE AND TESTING  
(Maximum marks 100)

Time 3:Hours

## PART-A

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

- 1 Define HDT and VST?
- 2 Distinguish between Po and PRI?
- 3 Name the oxidative mixture used for Nitrogen content determination?
- 4 Differentiate Tensile strength and tear strength ?
- 5 List out the specification tests for blood bag? (5x2=10)

## PART –B

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

1. Explain the importance of quality control and testing in rubber processing industry? (6)
2. a) Define brittleness temperature ? How it is determined? (3)  
b) Write the significance and importance of moisture content in silica ? (3)
3. a) Write the technical specification values for ISNR50 (3)  
b) Name the apparatus used for the determination of following tests  
i) Viscosity of latex ii) VFA number iii) Ash content (3)
4. a) Write the procedure and principle for the determination of ash content (3)  
b) What is MST? How is it expressed? Write the principle behind MST testing (3)
5. a) Define Resilience. Name the instrument used for the determination of resilience (3)  
b) Draw a typical test specimen sample for the determination of TS with dimensions (3)
6. a) Differentiate creep and cold flow. (3)  
b) What is Melt flow index (3)
7. a) List the specification tests for cycle tubes. (3)  
b) State the importance of product testing (3)

(5x6=30)

PART –C

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

UNIT -1

- III. a) Explain the determination of percentage purity of DPG and MBT (8)  
b) How dielectric strength and arc resistance of a polymeric material determined (7)

OR

- IV a) Explain the particle size determination of carbon black by iodine adsorption method (8)  
b) Describe various test method employed to study thermal properties of polymers (7)

UNIT –II

- V a) Explain the significance and procedure for the determination of VFA number of NR latex (8)  
b) Write the technical specification values of concentrated latex as per BIS (7)

OR

- VI a) Explain the significance and procedure for the determination of Nitrogen content of NR (8)  
b) Explain the procedure for the determination of Po and PRI of raw Natural Rubber. (7)

UNIT –III

- VII a) Describe the test method for the determination of tensile strength and tension set (8)  
b) Explain the method for the determination of abrasion resistance and abrasion resistance index (7)

OR

- VIII( a) Describe the test method for the determination of modulus and EB%  
(b) Write the significance, principle and procedure for the determination of compression set (8)

UNIT –IV

- IX a) List out various specification tests of Hawaii sole? Explain any two test methods (8)  
b) Write the specification values for cycle tyres (7)

OR

- X a) List out various specification tests of surgical gloves .Explain any two test method (8)  
b) Describe the various specification test methods for conveyor belts. (7)

.....