

### SECTION-C

**Note:** Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Explain how processing and application properties of polymers are affected by compounding.
- Q.4 Discuss the role of heat stabilisers in rubber processing. Name and explain working of different types of heat stabilisers.
- Q.5 Draw a neat diagram of banbury mixer and explain its working.
- Q.6 Discuss the formulation and compounding for conveyor belt in detail.
- Q.7 Draw a labelled diagram of dispersor and explain its working.

No. of Printed Pages : 4

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### 5th Sem. / Rubber Technology

**Subject : Compounding and Formulation of Rubber**

Time : 3 Hrs.

M.M. : 100

### SECTION-A

**Note:** Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1 a) What is an additive?  
b) What is a hose?  
c) Define polymer.  
d) Define diluent.  
e) What is a high performance mixer?  
f) Define kneading.  
g) Define feed.  
h) What is an extruder?  
i) Define 'Scorch'.

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- j) Define carcass.
- k) What are DIP shoes?
- l) Define reinforcement.
- m) Give two examples of inorganic pigments.
- n) What is meant by permeability.
- o) Define 'Mooney Viscosity'.
- p) Name two inert fillers.
- q) What is a block agent?
- r) What do you mean by property modification?

### SECTION-B

**Note:** Short answer type questions. Attempt any ten parts

10x4=40

- Q.2
- i) List various factors to be considered for selection of an ingredient in a formulation.
  - ii) State the principles of theory of mixing.
  - iii) Write a short note on chemical blowing agent.

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- iv) Discuss the use of external lubricants in rubbers.
- v) Write short note on antistatic agents.
- vi) Write a short note on dyes.
- vii) Draw a neat diagram of two roll mill.
- viii) Define flame retardant and list three flame retardants for rubbers.
- ix) State the advantages and disadvantages of batch mixer.
- x) Write down formulation for passenger tread.
- xi) Write down standard formulations for rubber frictions compound.
- xii) Write short note on UV stabilisers.
- xiii) Discuss the advantages and disadvantages of continuous compounding.
- xiv) Write a short note on fungicides.
- xv) Differentiate between mixing of solids and pastes.

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