

### SECTION-C

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

- Q.3 Explain the determination of Rheological properties of a mixed compound by Rheometer.
- Q.4 Describe in detail trouble shooting of extruder operations.
- Q.5 Describe the function and layout of auxillary equipment for standard calendering operation.
- Q.6 Define and explain in detail the textile coating by 'spreading' and state its usefulness and limitations.
- Q.7 Describe the process of Vulcanization by Rotocure and fluidized bed.

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**4th Sem. / Rubber Tech.**

**Subject : Rubber Processing Techniques-I**

Time : 3 Hrs.

M.M. : 100

### SECTION-A

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

- Q.1 a) Define rubber processing.  
b) Define batch weight.  
c) Define extruder die swell.  
d) Expand FIFO.  
e) Explain the concept of storage life of materials.  
f) State the necessity of rubber mixing.  
g) Define scorch time.  
h) Define extrusion.  
i) State the basic principle of diffusion.

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- j) Define pin barrel.
- k) State the necessity of temperature control in extrusion.
- l) State approximate range of  $\frac{L}{D}$  ratio of screw.
- m) Define calendering.
- n) Name two products produced by calendering.
- o) Explain roll floating in calendering.
- p) Define textile coating by dipping.
- q) Define vulcanization.
- r) Expand RF and LCM.

### SECTION-B

**Note:** Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) Explain handling of a batching system.
  - ii) Explain weighing of a batching system.
  - iii) With neat sketch, explain the working of Mooney Viscometer.

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- iv) Describe the working of Rapid Plastimeter.
- v) Compare the merits and demerits of a ram and screw.
- vi) With neat sketch, explain screw design.
- vii) Write a note on Die and Die swell.
- viii) Describe different heating systems in extruders.
- ix) Explain the construction of cross-head extruder.
- x) Describe skim coating and sheeting in calendering.
- xi) Describe calender gauze control devices in calendering.
- xii) Explain trouble shooting of calendering operations.
- xiii) Name the various vulcanizing agents and state their relative merits and demerits.
- xiv) Describe vulcanization by IR method.
- xv) Describe vulcanization by Hot air.

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