



- 2 Attempt any **two** parts of the following: 10
- (a) Draw a Cobweb model for the following market : 10
- $$D = \frac{17.9}{p^{1/2}} - 4.6$$
- $$9S = 5.0 (P_{-1} - 1)$$
- Assume the market is always cleared.
- (b) Explain distributed lag model with an example. Demonstrate its use. 10
- (c) What are types of system simulation ? 10  
Explain each with example.
- 3 Attempt any **two** of the following : 10
- (a) Differentiate between Monte Carlo computation and stochastic simulation. 10
- (b) Explain the following : 5
- (i) Simulation of continuous systems. 5
- (ii) Simulation of water reservoir system. 5
- (c) What is the method of testing random number generation of nonuniformly distributed random numbers ? 10
- 4 Attempt any **two** of the following : 10
- (a) Two competing companies invest funds in capital equipment to improve their positions. The rate at which each invests funds decreases linearly as their own investment increases but increases linearly as their competitor's investment increases. Draw a diagram from which to simulate the competition and determine under what conditions the investments will stabilize. 10

- (b) What type of a model is the world model ? **10**  
Explain it in detail.
- (c) Explain Exponential Decay models. Also **10**  
describe logistic curves.

**5** Attempt any **two** of the following :

- (a) CSMP-III and MODSIM – III. **10**
- (b) Continuous and discrete simulation language **10**  
and expression based language.
- (c) Simulation of PERT networks. **10**