

**IMBA (IIS) & BRS / IMRS Sem. 6 Examination****Business Simulation****Time : 2-30 Hours]****May-2025****[Max. Marks : 70****Instructions:**

- The figures on right hand side indicates MARKS.
- Use of calculators is NOT allowed.

**Q1.** Analyse the application of simulation in strategic decision-making. Illustrate with a practical case. [14 marks]

**OR**

**Q1 A.** Define the simulation-based decision process. [7 marks]

**Q1 B.** List and explain the major steps involved with reference to a case. [7 marks]

**Q2.** Describe how sensitivity analysis helps managers make better decisions. Demonstrate with simulation output examples. [14 marks]

**OR**

**Q2 A.** What is sensitivity analysis in simulation? [7 marks]

**Q2 B.** Explain how changing input variables affects decision-making. [7 marks]

**Q3.** Compare Arena and SIMAN as simulation tools. Evaluate their effectiveness in business applications. [14 marks]

**OR**

**Q3 A.** What is Arena used for in business simulation? [7 marks]

**Q3 B.** Briefly explain the key features of SIMAN language. [7 marks]

**Q4.** Discuss the use of simulation for designing experiments in a manufacturing setup. Include a mock setup. [14 marks]

**OR**

**Q4 A.** Why are simulations useful for experiment design in business? [7 marks]

**Q4 B.** Describe the structure of a simple simulation experiment. [7 marks]

**Q.5 Choose the following (MCQs) attempt any 14 out of 16****[14 MARKS]**

1. Single-server simulations are ideal for:  
A) Cloud computing      B) Service desks  
C) Complex factories      D) Data warehousing
2. Arena uses which language for simulation modelling?  
A) SIMAN      B) HTML  
C) SQL      D) Python
3. In simulation, a “run” refers to:  
A) A jogging routine      B) A single experiment  
C) Error detection      D) Validation process
4. Which of the following is NOT a simulation technique?  
A) Monte Carlo      B) Discrete-event  
C) Regression      D) Continuous
5. SIMAN is:  
A) A scripting language.      B) A software update tool  
C) Simulation language.      D) Database engine
6. The purpose of a simulation model is to:  
A) Confuse decision-makers      B) Mimic real systems  
C) Stop change      D) Cut costs only
7. What is the key goal of optimization in simulation?  
A) Reduce staff      B) Minimize inputs only  
C) Improve system performance      D) Avoid decisions
8. Verification is about:  
A) Checking code spelling      B) Ensuring logical correctness  
C) Forecasting sales      D) Measuring profitability
9. The term “scenario analysis” in simulation refers to:  
A) Creative writing      B) Evaluating multiple outcomes  
C) Factual reporting      D) Elimination of all variables
10. Simulation models are built to:  
A) Create fiction      B) Solve equations manually  
C) Replicate real-life systems      D) Avoid automation
11. Logistics simulation helps to:  
A) Confuse suppliers      B) Simplify taxes  
C) Improve delivery routes      D) Reduce demand

12. Sensitivity analysis is mainly used when:  
A) Data is fixed      B) Variables are sensitive to change  
C) Nothing can vary    D) No model is made
13. In production shop simulations, what is critical?  
A) Fixed orders.      B) Process flow modeling  
C) HR interviews.    D) Consumer behaviourU
14. Experimental design in simulation involves:  
A) Collecting invoices.      B) Designing surveys  
C) Planning model scenarios. D) Drawing blueprints
15. In simulation, a "run" refers to:  
A) A jogging routine      B) A single experiment  
C) Error detection      D) Validation process
16. Monte Carlo simulations are useful for:  
A) HR decisions      B) Deterministic problems  
C) Risk analysis      D) Budget cuts

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