

**(REVISED COURSE)**

(3 Hours)

**[Total Marks : 100****N.B. : 1. Question No. 1 is compulsory.****2. Attempt any four out of the remaining six questions.**

1. (a) Discuss the benefits and barriers that exist for the adoption of sell-side e-commerce for B2B and B2C organizations. **10**
- (b) Explain disintermediation and re-intermediation with examples. What is the relevance of intermediary sites such as kelkoo.com for the B2C company? **10**
2. (a) Discuss different mechanisms for online auctions. **10**
- (b) Discuss different revenue models of any portal of your choice. **10**
3. (a) What are the different options for restructuring the supply chain management? **10**
- (b) What are the different types of portals? Explain giving examples of each. **10**
4. (a) Propose a start-up venture for an e-business for electronic goods. Give details of your business plans and e-marketing strategies. Justify the statement that environmental influences are important. **10**
- (b) Comment on key management issues of e-business infrastructure. **10**
5. (a) Explain the risks and benefits of applying RFID in the manufacturing sector. **10**
- (b) Describe different elements of an e-procurement system. Explain how cost savings may arise from e-procurement. **10**
6. (a) What are Michael Porter's five competitive forces? What is the Impact of the Internet on business using the five force framework? **10**
- (b) With reference to customer acquisition and retention, explain the goals for each required by an e-commerce site manager. **10**
7. Write short notes on : (any two) **20**
  - i) E-CRM
  - ii) Change Management
  - ii) e-Business strategy process models
  - iv) SLEPT factors.

(3 Hours)

[ Total Marks : 100

- N.B. :** (1) Question No. 1 is **compulsory**.  
(2) Solve any **four** questions from remaining **six** questions.  
(3) Assume suitable **data** wherever **necessary**.

1. a) The average I/O size of an application is 64 KB. The following specifications are available from the disk manufacturer: average seek time =5 ms, 7,200 rpm, transfer rate=40 MB/s. Determine the maximum IOPS that could be performed with the disk for this application. Taking this case as an example, explain the relationship between disk utilization and IOPS. (10)
- b) What are the components of NAS? Explain NAS Implementations. (10)
2. a) Explain disk drive components with neat diagram. (10)
- b) Explain SNIA storage virtualization taxonomy with its configuration implementations. (10)
3. a) Explain Object Storage and Retrieval in CAS. (10)
- b) Explain storage security domains with reference to threats, availability controls and examples. (10)
4. a) Explain the parameters and components for monitoring the storage infrastructure with monitoring example. (10)
- b) Explain remote replication technologies with neat diagrams. (10)
5. (a) Explain business continuity terminologies. (10)
- b) Explain RAID levels in detail with neat diagram. (10)
6. a) Explain various fibre channel ports with neat diagram. (10)
- b) Explain the architecture of intelligent storage system in detail. (10)
7. Write short notes on the following.(any 4): (20)
  - a) Backup granularity
  - b) Zoning
  - c) Topologies for iSCSI connectivity
  - d) Storage management activities
  - e) Uses of Local Replicas

**N.B. :** (1) Question No. 1 is compulsory.

(2) Attempt any four questions out of remaining six questions.

1. (a) What are the various phases in game development ? State the process, people involved and the out-come of each phase. 10  
(b) What are the two methods of drawing text on screen and what are its advantages and disadvantages ? 10
2. (a) What are the research goals and explain Blue-Sky Research. 10  
(b) Explain Tokenization with Pong game. 10
3. (a) What are the three stages of running a game ? Explain in detail. 10  
(b) What are the different methods of compression in use ? 10
4. (a) Work short note on 3D graphics pipeline. 10  
(b) Write in brief, how Direct-X can be used to develop games. 10
5. (a) What are smart pointers ? Write a short note on the different ways in which they can be implemented. 10  
(b) Describe the game build process. 10
6. (a) Define Middleware ? Describe the popular 3D engines currently in use. 10  
(b) What are the core groups in software factory and their interactions ? 10
7. Write short note on (any four) :- 20
  - (a) Lua
  - (b) Hard and Softs Architectures
  - (c) Scene Nodes
  - (d) Open GL
  - (e) Python
  - (f) Audio formats.

- N.B. :** (1) Question No. 1 is compulsory.  
(2) Attempt any four questions out of remaining six questions.  
(3) Assume suitable data if necessary with proper justification.

Q No 1. a. What are humanoid robots. (05)

b. Define the following terms: Tool Path, Tool Trajectory, DOF, Precision, Accuracy. (05)

c. Explain guarded and constrained motion. (05)

d. Define Joint space work envelope, Dexterous work envelope. (05)

Q No 2. a. Explain four fundamental operations for merging of frame K-1 with frame K. Also obtain General link Coordinate Transformation matrix  $T_{K-1}^K$  (10)

b. Consider an Adept 1 SCARA robot 4 axes having axes B, E, VE, TR. Write a note on its physical construction. Explain its kinematic configuration (LCD KPT using pass 1 and pass 2 of DH algorithm with neat sketch and obtain the arm matrix and verify it by substituting the last column of the KP table. (10)

Q No 3. a. Initially M and F are two RHOFC which are coincident. After performing a screw transformation along  $F^3$  axis of F by a distance of 5 units and rotating by an angle of  $90^\circ$  about  $F^3$  axis of F, Find  $[M^3]^f$  after screw transformation. Also, find pitch of the screw. Here  $[M^3]^f$  is a unit vector with coordinates  $[0,0,1,1]^T$  (10)

b. Explain Robot Task Planner with the help of neat block diagram. Also classify various robotic motion planning techniques. (10)

Q No 4. a. What are Template Matching Techniques of a Gray level image and their applications to robotic vision. (10)

b. Explain Edge detection algorithm for finding the edges of an object in a image. (10)

Q No.5. a. Compare real time operating system with traditional ones. (08)

b. Find the inverse kinematic solution of Four Axes Adept - 1 SCARA robot (12)

Q No 6. a. Explain Pick and place operation in Trajectory planning. (10)

b. Carry out work space analysis of five axis articulated Rhino XR-3 Robot. (10)

**Q No. 7. Write short notes on (any three) :**

- a. Perspective Transformation**
  - b. Object Tracking using Discrete Wavelet Transform**
  - c. Linear interpolation with parabolic blends.**
  - d. Programming languages for Embedded Systems**
  - e. Bounded deviation algorithm.**
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Con .4457-12

[Revised Course] :-  
(3 Hours)

GN-8285  
[Total Marks – 100]

N.B. 1) Question No. 1 is compulsory  
2) Attempt any 4 out of remaining six questions

Q1. Describe the following (20)

- a) PMBOK
- b) Triple constraints of a project
- c) Business case
- d) Relation between MOV, Scope and WBS
- e) Formal and informal organization

Q2. a) What is a project? What are attributes of project? What is project management? (10)

b) Describe the five phases of IT project methodology. (10)

Q3. a) Describe the five scope management processes (10)

b) Explain work break down structure with example? How does it map to the DDT and DSC? (10)

Q4. a) Describe any 3 techniques used for project scheduling (10)

b) What is project risk management (RM)? What are the RM processes? (10)

Q5. a) Describe IT project risk identification framework. Explain the types of risks with examples (10)

b) What is change management plan and why is it important for an organization to have? (10)

Q6. a) Describe project procurement processes (10)

b) Describe project life cycle and its relation with SDLC? (10)

Q7. Explain with a brief answer (20)

- a) What is a milestone? Why are they useful?
- b) What is projectitis? How can an organization minimize its likelihood of its occurrence?
- c) Explain the difference between AON and PERT
- d) Why is effective and efficient communication vital to a project?
- e) How can a system be a technical success but an organizational failure?