

**FACULTY OF ENGINEERING****B.E. 4/4 (CSE) II – Semester (Main) Examination, April / May 2013****Subject: Information Storage & Management (Elective – II)****Time: 3 Hours****Max. Marks: 75****Note: Answer all questions from Part – A and any five questions from Part – B.****PART – A (25 Marks)**

1. What are the key challenges in managing information? (3)
2. What is logical block addressing in a disc drive? (3)
3. Brief out the 3 factors on which RAID levels are classified. (3)
4. Explain what is LVN masking? (2)
5. What are the different types of zoning? (3)
6. List out various components of NAS. (2)
7. Mention the challenges faced in storage virtualization. (2)
8. Differentiate between RPO and RTO. (2)
9. Define backup granularity and mention the types of it. (3)
10. What are the components to be monitored in a storage infrastructure? (2)

**PART – B (5x10 = 50 Marks)**

- 11.(a) What is information life cycle? How is it managed? (4)
- (b) Explain the various ways of implementing ILM and illustrate the benefits of ILM? (6)
12. What are the different logical components of a Host? Explain in detail each of them. (10)
- 13.(a) Storage area network has evolved. Explain with the help of a neat diagram. (5)
- (b) What are the ways of achieving fibre channel connectivity in SAN? (5)
- 14.(a) Explain the various topologies for iSCSI connectivity. (5)
- (b) List out the various features and benefits of CAS. (5)
- 15.(a) Mention the 3 driving factors to take a backup. (3)
- (b) How are backup and restore operations performed.  
Explain with the help of diagrams. (7)
16. With a neat diagram, explain the various remote replication technologies. (10)
17. Write short notes on:
  - a) Server virtualization (3)
  - b) Capacity monitoring (4)
  - c) Risk triad. (3)

**FACULTY OF ENGINEERING & INFORMATICS****B.E. 4/4 (ECE / CSE / IT) II – Semester (Main) Examination, April / May 2013****Subject: Entrepreneurship (Elective – II & V)****Time: 3 Hours****Max.Marks: 75****Note: Answer all questions from Part – A and any five questions from Part – B.****PART – A (25 Marks)**

1. What do you mean by economic growth for entrepreneur? (2)
2. Mention the different types of enterprises. (2)
3. What are the characteristics for entrepreneurs? (2)
4. What are the sources of ideas in technology development? (2)
5. What is slack? (2)
6. What is technical analysis in project formulation? (3)
7. How do you analyze the market for demand? (3)
8. Define three time estimates. (3)
9. What are the determinants in the behaviour aspects of entrepreneurs? (3)
10. Mention the various approaches of time management. (3)

**PART – B (5x10 = 50 Marks)**

- 11.(a) Enumerate the opportunities and challenges in Indian Industrial Environment.  
(b) Mention the objectives of small scale industry.
- 12.(a) Explain the characteristics of women entrepreneurs.  
(b) What are the difficulties to be faced by the first generation entrepreneurs?
13. The three time estimates of each activity together with predecessors of a building project are given below:

Activity	Three time estimates		
	$t_o$	$t_m$	$t_p$
A-B	2	6	10
A-C	4	8	122
B-C	2	4	6
C-D	0	0	0
B-D	2	3	4
C-E	3	6	9
D-F	6	10	14
E-F	1	3	5

- i) Draw the network and identify the critical path
- ii) Identify the float for each activity and slack for each event.
- iii) Develop the time scale for the network.
- 14.(a) How do you identify the market demand for project formulation?  
(b) What is the difference between critical path and non critical path?
- 15.(a) Briefly discuss on the behaviour aspects of entrepreneurs.  
(b) What is time management matrix?
- 16.(a) Discuss the limitations of bar chart.  
(b) Enumerate the behaviour aspects of entrepreneurs.
17. Write short notes on any three of the following:
  - i) Forms of enterprises
  - ii) Float and dummy activity
  - iii) Sources of ideas
  - iv) Collaborative interaction for technology development
  - v) Leadership concept and models.

**FACULTY OF ENGINEERING**  
**B.E. 4/4 (CE) II-Semester (Main) Examination, April / May 2013**

**Subject : Ground Improvement Techniques**  
**(Elective - II)**

Time : 3 Hours

Max. Marks: 75

**Note: Answer all questions of Part - A and answer any five questions from Part-B.**

**PART – A (25 Marks)**

1. In cohesionless soils, in general, the dynamic methods of ground improvement are more effective than static methods. Answer yes or no and justify your answer.
2. "In cement stabilization method, the quantity of cement by weight required for clays is around 5% and that for gravels is around 20%". Answer yes or no and justify your answer.
3. State the empirical equation for calculation of quantity of charge in blasting method of ground improvement.
4. "the pre-fabricated vertical drains are installed by drilling a bore hole". Answer yes or no and justify your answer.
5. Name the ideal geosynthetic product of use in canal lining works.
6. What is "Volatile content" in bitumen? What is its effect in bituminous stabilization?
7. What is "blanket grouting" ? Why and where it is used?
8. The suitability number of an earth selected as back fill material in vibro-floatation method is found to be 16.80. Determine its effective size, if  $D_{20}=0.60\text{mm}$  and  $D_{50}=1.20\text{mm}$ .
9. Applying Carillo's solution for the differential equation governing consolidation process aided with vertical drains, determine the overall degree of consolidation (U) if degree of consolidation due to vertical drainage and radial drainage are 26% and 68% respectively.
10. State the application of geosynthetics as capping in solid waste disposal sites.

**PART – B (5x10=50 Marks)**

- 11.(a) Explain classification of ground condition based on the potential for ground improvement with suitable examples. (5)
- (b) In Himalayan region, the road connectivity is seriously affected by landslide. Identify the geotechnical challenges involved in such ground conditions, identify possible ground improvement techniques and suggest the ideal techniques. (5)
- 12.(a) Describe the soil stabilization procedure in detail. (5)
- (b) Critically compare the Cement and Bitumen methods of stabilization including the functions served by each, the merits and demerits and suitability. (5)
- 13.(a) Explain the mechanism of compaction piles in densifying the ground. Give details of their construction procedure. (5)
- (b) Write a detailed note on "sand compaction piles". (5)
- 14.(a) Explain the concept of "pre-compression". Describe briefly various pre-compression methods and their suitability. (5)
- (b) Compare conventional sand drains with pre-fabricated vertical drains. (5)
- 15.(a) Write a detailed note on "classification of geosynthetics" including salient features of each type. Also state briefly, the functions served and the associated applications. (5)
- (b) Draw typical cross section of a Reinforced soil wall and name the parts. (5)
- 16.(a) Explain the grout procedure in detail. (5)
- (b) Describe the applications of grouting in improvement of bearing capacity. (5)
17. Write short notes on any two of the following: (10)
  - (a) Objectives of ground improvement
  - (b) Lime stabilization
  - (c) Dewatering methods in ground improvement
  - (d) Applications of geosynthetics in erosion control

**FACULTY OF ENGINEERING****B.E. 4/4 (CSE) II – Semester (Main) Examination, April / May 2013****Subject : Human Computer Interaction (Elective – II)****Time : 3 hours****Max. Marks : 75****Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (25 Marks)**

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|---|---|
| 1. What is a foveal and peripheral vision?                      | 3 |
| 2. What is an Intent indicators?                                | 2 |
| 3. What is a workplace?   | 2 |
| 4. Define modal and modeless.                                   | 3 |
| 5. What is Dithering?   | 2 |
| 6. What is Wizards?   | 2 |
| 7. What is mapping?   | 3 |
| 8. What is interaction design and how it relates to HCI?        | 3 |
| 9. What is prototyping?   | 2 |
| 10. What guidelines are needed for designing conceptual models? | 3 |

**PART – B (50 Marks)**

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|--|----|
| 11.a) What are the five commandments for design process?     | 5  |
| b) Discuss about the objective measures of usability.        | 5  |
| 12. What are the different types of statistical graphs.      | 10 |
| 13. Explain in detail about different kinds of windows.      | 10 |
| 14. What is an icon? List out the characteristics of icon.   | 10 |
| 15.a) Define Border? Explain different types of Borders.     | 6  |
| b) What are the different types of text.                     | 4  |
| 16. Explain the different stages of life cycle model of HCI. | 10 |
| 17. Write short notes on :                                   |    |
| a) Cognition   | 3  |
| b) Kinds of test in evaluation                               | 4  |
| c) Event trapping menus                                      | 3  |

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**FACULTY OF ENGINEERING****B.E. 4/4 (CSE) II – Semester (Main) Examination, April / May 2013****Subject : Soft Computing (Elective – II)****Time : 3 hours****Max. Marks : 75****Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (25 Marks)**

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|--|---|
| 1. Briefly explain what is an artificial neuron.                     | 3 |
| 2. What is the importance of threshold in perception network.        | 2 |
| 3. Define Delta rule.  | 2 |
| 4. List out the benefits of neural networks.                         | 3 |
| 5. Describe unsupervised learning.                                   | 2 |
| 6. What is an XOR problem?   | 3 |
| 7. Discuss the methods of aggregation of fuzzy ruler.                | 3 |
| 8. What is meant by cross over point in a fuzzyset?                  | 2 |
| 9. Compare and contrast traditional algorithm and genetic algorithm. | 3 |
| 10. What is genetic programming?                                     | 2 |

**PART – B (5 x 10 = 50 Marks)**

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|--|----|
| 11.a) What is a learning rate parameter?                                     | 3  |
| b) State the training algorithm used for Hebb network.                       | 7  |
| 12.a) What is meant by gradient descent method?                              | 4  |
| b) List the stages involved in training of backpropagation network.          | 6  |
| 13.a) State the advantages of associative memory.                            | 4  |
| b) Draw the architecture of discrete Hopfield net.                           | 6  |
| 14. Explain the training algorithm used in ART network.                      | 10 |
| 15.a) Define fuzzy number.   | 4  |
| b) Describe how neural network is used to obtain fuzzy membership functions. | 6  |
| 16. Explain the working of genetic algorithms with suitable example.         | 10 |
| 17. Write short notes on the following :                                     |    |
| a) Fuzzy ordering  | 5  |
| b) Applications of genetic algorithms  | 5  |

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