FACULTY OF INFORMATICS

B.E. 4/4 (IT) II – Semester (Old) Examination, May 2014

Subject : Soft Computing   (Elective – V)

Time : 3 hours   **Max. Marks : 75**

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.
PART – A (25 Marks)

1   Distinguish between hard computing and soft computing.   2
2   State the role of bias and weight in a network.   2
3   Draw the architecture of hetero associative network.   2
4   Mention the steps involved in the operation of Gaussian Net.   3
5   State any six properties of fuzzy sets.   3
6   How is function mapping done in classical sets?   3
7   Define a fuzzy quantifier and fuzzy qualifier?   2
8   List the properties of λ-cuts.   3
9   What characterizes a decision making model?   3
10 Write the effects of genetic operators.   2

PART – B (50 Marks)

11 a) Discuss about the vast application areas of Neural Networks.   5
    b) Draw the five types of neuron connection networks.   5

12 Explain in detail the training algorithm for ARTI.   10

13 a) Given 2 fuzzy sets $\underset{\sim}{B_1} = \left\{ \frac{1}{1.0} + \frac{0.75}{1.5} + \frac{0.3}{2.0} + \frac{0.15}{2.5} + \frac{0}{3.0} \right\}$ 5

$\underset{\sim}{B_2} = \left\{ \frac{1}{1.0} + \frac{0.6}{1.5} + \frac{0.2}{2.0} + \frac{0.1}{2.5} + \frac{0}{3.0} \right\}$. Find the following

   i) $\underset{\sim}{B_1} \, U \, \overline{\underset{\sim}{B_1}}$ ii) $\overline{\underset{\sim}{B_1} \, U \, \underset{\sim}{B_2}}$ iii) $\underset{\sim}{B_1} \, | \, B_2$ iv) $\underset{\sim}{B_1} \, U \, B_2$ v) $\overline{\underset{\sim}{B_1} \bigcap B_2}$

   b) Write about angular fuzzy sets.   5

14 Discuss in detail about fuzzy measures.   10

15 a) Distinguish between traditional algorithm and genetic algorithm.   5
    b) Explain fuzzy Bayesian decision making.   5

16 Discuss about the following :
    a) Fuzzy equivalence and tolerance relation   b) Support vector machines   5 + 5

17 Implement OR function with binary inputs and bipolar targets using perceptron
    training algorithm upto 3 epochs.   10

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FACULTY OF INFORMATICS
B.E. 4/4 (I.T.) II - Semester (New)(Main) Examination, May 2014

Subject : Soft Computing (Elective-V)

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	Define membership function and state its importance in fuzzy logic.	(3)
2	What are fuzzy measures?	(2)
3	Differentiate between upper and lower approximations in Rough sets.	(3)
4	State the importance of Genetic Algorithm.	(2)
5	List the different types of crossover operators.	(3)
6	Compare and contrast biological neuron and artificial neuron.	(2)
7	Define Learning.	(3)
8	What is the importance of Threshold in perceptron network?	(2)
9	What are the applications of genetic algorithms?	(3)
10	List the applications of Rough sets.	(2)

PART – B (50 Marks)

11　(a)　Describe the importance of fuzzy sets.　　　　　　　　　　(5)
　　(b)　What are Tolerance and equivalence relation?　　　　　　　(5)

12　Explain the concepts of multi-granulation rough set models.　　(10)

13　(a)　Why is the Mu Culloch – Ritte neuron widely used in logic functions.　(4)
　　(b)　Implement OR operation using M-P neuron.　　　　　　　(6)

14　Explain the training algorithm of radial basis function network.　(10)

15　Explain the computer implementation of a Genetic Algorithm.　(10)

16　Explain fuzzy associative memories.　　　　　　　　　　　　(10)

17　Explain Hybrid systems and its applications.　　　　　　　　(10)

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FACULTY OF INFORMATICS
B.E. 4/4 (IT)   II – Semester (Old) Examination, May 2014

Subject : Human Computer Interaction   (Elective – V)

Time : 3 hours   **Max. Marks : 75**

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.
PART – A (25 Marks)

1   What is the difference between user interface prototyping and usability testing?
2   Give two differences between long and short term memory.
3   What is the significance of 7(+ or -2) for human-computer interaction?
4   List some common types of messages.
5   What is the difference between *modal and modeless* dialogue boxes?
6   What is the difference between Internationalization and localization?
7   Distinguish between slips and mistakes.
8   What is participatory design?
9   List the social mechanisms that are used by people to communicate and collaborate.
10 What are predictive models? Give the name of a well known predictive modeling technique.

PART – B (50 Marks)

11 a) Explain complexity – simplicity trade off in the design of user interfaces.
    b) Describe the characteristics of a direct manipulation system.

12 a) What are the most common structures of menus? Briefly explain each of these.
    b) What are presentation controls? Describe any two of these controls.

13 a) What are wizards? Give their purpose and design guidelines.
    b) What is accessibility design? Give the guidelines for web page accessibility design.

14 a) Discuss the pros and cons of using interface metaphors as part of conceptual model.
    b) What is external cognition? Why it is important for interaction design?

15 a) Describe keystroke level mode.
    b) What are the three main evaluation approaches? Briefly explain each of these approaches.

16 a) What are conceptual models? Describe the two major steps in conceptual model preparation.
    b) What are different interaction types? Briefly explain each of these types.

17 Write short notes on :
    a) Usability goals
    b) Different techniques for color pallet specification
    c) Star lifecycle model

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FACULTY OF INFORMATICS
B.E. 4/4 (I.T.) II - Semester (New)(Main) Examination, May 2014

Subject : Human Computer Interaction
(Elective-V)

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   Define the term interaction space
2   What are the two basic interaction styles in web navigation?
3   Give examples of closed-ended and open-ended questions.
4   What are the advantages of low-fidelity prototypes?
5   How does screen complexity and usability are related?
6   Distinguish between predictive and descriptive models.
7   What is WIMP interface?
8   Distinguish the terms Phonogram and Logogram
9   What are the four main components of digital text?
10 Distinguish between Earcons and auditory icons

PART – B (50 Marks)

11 (a) What are different interaction paradigms? Describe the characteristics of any two
          paradigms.
    (b) What is direct manipulation interaction style? List the advantages and disadvantages.

12 Explain the difference between a conceptual design process and the physical design process.

13 What is Fitt's? What are its implications for interaction design?

14 (a) Describe different types of color blindness.
    (b) Discuss the principles of creation of Icons.

15 (a) Describe different contexts of usage of sound in interaction design.
    (b) Discuss the applications of Haptic interfaces in medical field.

16 (a) List the advantages and disadvantages of menu based interfaces.
    (b) Distinguish between scrolling and paging.

17 Write short notes on the following:
    (a) Three-State Model
    (b) Interface design standards

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FACULTY OF INFORMATICS
B.E. 4/4 (I.T.) II - Semester (Old) Examination, May 2014

Subject : Software Project Management (Elective-V)

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　How are software projects different from other types of projects?　(2)
2　Who are the stakeholders for any project? Why do their objectives differ?　(3)
3　What is the advantages of the spiral model for development of projects?　(2)
4　Distinguish between top-down bottom-up software effort estimation techniques.　(3)
5　What is the importance of identifying resource requirements in order to produce resource allocation?　(2)
6　A simple change control procedure for operational systems might have various steps. What are they?　(3)
7　Based on contractor selection, how can contracts be categorized.　(2)
8　Give three specific reasons why quality management is an essential part of effective overall project management.　(3)
9　What are the different PRINCE 2 processes when controlling a stage?　(3)
10　What are the five elements which a plan according to BS 6079 should have?　(2)

PART – B (50 Marks)

11　What are the reasons for software prototyping? Distinguish between throw-away and evolutionary prototypes? What are the advantages and disadvantages of software prototyping?　(10)

12　(a)　Explain about the network planning models useful in activity planning.　(4)
　　(b)　Explain the Top-down effort estimation technique – Albrecht function point analysis.

13　What are the top ten risks as presented by Barry Boehm and what are the corresponding risk reduction techniques?

14　(a)　What are the advantages and disadvantages of Fixed price contracts?　(5)
　　(b)　Enlist the five basic stages of development that teams go through in becoming a team.　(5)

15　Bring out the differences between PRINCE 2 and BS6079.　(10)

16　(a)　What are the different techniques that are used in software effort estimation?　(6)
　　(b)　What are the risks associated with acquisition of commercial-off-the-shelf components?　(4)

17　Write short notes on the following:
　　(a)　Use of Gantt chart in visualizing progress　　(b)　Dispersed and virtual teams　5 + 5

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FACULTY OF INFORMATICS
B.E. 4/4 (I.T.) II - Semester (New)(Main) Examination, May 2014

Subject : Software Project Management
(Elective-V)

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	Define Process Maturity	(2)
2	List out various Engineering Artifacts.	(3)
3	List out Parameters of software cost model.	(2)
4	What are the essential activities of inception and Elaboration phase?	(3)
5	Write Process discriminators that result from differences in domain experiences.	(3)
6	Write short notes on Modern Project Profiles.	(3)
7	Explain stake holders Environment.	(3)
8	List out Management Indicators. (2)	
9	Define Return on Investment (ROI) and How it is computer?	(2)
10	Define Round trip Engineering.	(2)

PART – B (50 Marks)

11 (a) Summarize the characteristics of a successful object oriented project.   (6)

   (b) Discuss the role of Peer Inspection in improving software quality.   (4)

12 Describe the primary objectives, essential activities and primary evaluation criteria
   of elaboration phase.   (10)

13 (a) Discuss the typical conventional WBS that is prematurely structural around the
       product hierarchy.   (6)

   (b) Discuss about the cost and schedule estimating process.   (4)

14 (a) What are the four component teams in a default project organization and their
       responsibilities?   (6)

   (b) What are the benefits of matching people to roles?   (4)

15 Discuss the seven core metrics that should be used on all software projects.   (10)

16 What were the metrics collected in CCPDs-R? What is the purpose of each metric?   (10)

17 Explain the following: (10)
   (a) Culture shift   (7)
   (b) Denouement   (3)

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FACULTY OF INFORMATICS
B.E. 4/4 (I.T.) II – Semester (Old) Examination, May 2014

Subject: Entrepreneurship
(Elective – V)

Time: 3 Hours   **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1   Explain the meaning of entrepreneur.

2   Discuss the reasons for the emergence of first generation entrepreneurs.

3   What do you mean by profitability analysis?

4   What is PERT?

5   What is motivation?

6   Explain the meaning of micro enterprise.

7   Explain the meaning of women entrepreneur.

8   What do you mean by a Project?

9   Explain the meaning of attitude.

10   What do you mean by market demand?

PART – B (5x10 = 50 Marks)

11   Discuss the role of entrepreneurs in the developing the economies.

12   What are the characteristics of successful entrepreneurs?

13   Explain the elements of a project report.

14   What is project planning and control and how do you do it?

15   Discuss the role of entrepreneurial leader.

16   Discuss the reasons for failure of technocrats in their ventures.

17   What are the personality determinants of entrepreneurs?

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FACULTY OF INFORMATICS
B.E. 4/4 (I.T.) II - Semester (New)(Main) Examination, May 2014

Subject : Entrepreneurship (Elective-V)

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	Define entrepreneur and intrapreneur.	(2)
2	List out salient features of small scale industries.	(2)
3	Briefly explain about first generation entrepreneurs.	(3)
4	What are the various sources of Idea generation?	(2)
5	Define project formulation	(2)
6	Give the concept of financial analysis.	(3)
7	Differentiate between CPM and PERT techniques.	(3)
8	Discuss about human aspects involved in project management.	(3)
9	How motivation influences behaviour of a person?	(3)
10	List out various approaches of time management.	(2)

PART – B (50 Marks)

11 (a) Explain the scenario of industries in pre and post independent India. (5)
    (b) List out various forms of enterprises and explain any two of them. (5)

12 (a) Explain about various opportunities and challenges for women entrepreneurs in Indian context. (5)
    (b) What are the different methods of technology acquisition? Explain any two of them. (5)

13 List out various objectives of project formulation. Also explain technical and marketing analysis. (10)

14 (a) Define project and give the procedure of project management. (5)
    (b) Discuss about the concept and necessity of tax burden assessment. (5)

15 (a) Define personality and explain its determinants. (5)
    (b) Explain in detail about Time Management Matrix with a neat sketch and examples for each quadrant of the matrix. (5)

16 (a) "Entrepreneurs are made not born" – Give your comments with proper justification. (5)
    (b) Define leadership and explain its models. (5)

17 Write short notes on any two of the following: (10)
    (a) Linkage between small and large scale industries
    (b) Critical path
    (c) Sources of finance

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FACULTY OF INFORMATICS
B.E. 4/4 (I.T.) II - Semester (New)(Main) Examination, May 2014

Subject : Cloud Computing
(Elective-V)

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   Define Virtualization
2   Define parallel processing
3   Define Fully integrated, enterprise class unified communication
4   What is modern on-demand computing?
5   What is software as a service? Give an example.
6   What is the role of open source software in data centers?
7   Describe downloading Sun xVM virtual Box.
8   Define cloud and Saas identify management.
9   What is Java Script Object notation?
10   List the common features of ubuntu mobile internet device.

PART – B (50 Marks)

11 (a) Describe internet software evolution.
      (b) Explain server virtualization.

12 (a) Describe layered components of infrastructure as a service.
      (b) What is amazon's elastic cloud?

13 (a) How do you extend your reach to support customers anywhere and at anytime?
      (b) Discuss in detail about perceptron network.

14 (a) Explain planning for capacity, SOA security.
      (b) Explain downloading Free DOS as a guest OS.

15 (a) Describe permissive federation, Encrypted federation.
      (b) Explain compliance as a service, cost effective multi-regulation, compliance verification.

16 (a) What are the standards for application developers of virtualization?
      (b) Describe solutions stacks (LAMP and LAPP).

17 Write short notes on the following:
      (a) Smart phones
      (b) Mobile platform virtualization
      (c) Collaboration applications for mobile platform

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