300812(33)

APR-MAY

B. E. (Eight Semester) Examination, 2020

(New Scheme)

(CSE Branch)

BIOMETRICS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note *: Attempt all questions. Part (a) is compulsory and attempt any **two** from (b), (c) and (d) parts of each question. Part (a) is carry 02 marks each and part (b), (c) and (d) carry 07 marks each. Assume if any data is missing.*

Unit-I

1. (a) Where are biometrics used?   2

(b) What needs to be considered when you enroll your biometric? Explain basic components of a Biometric System. 7

(c) Will biometrics be a panacea in preventing terrorist activity? 7

(d) What do I need to consider before introducing biometrics? Also explain FAR, FRR and ERR. 7

Unit-II

2. (a) What is image segmentation? 2

(b) What happen to the facial features image and iris image? 7

(c) Design a Face recognition system for person recognition. Explain merits and demerits of Finger print recognition system. 7

(d) Comparison of face and iris Biometric Modalities. 7

Unit-III

3. (a) Do fingerprints and other biometric change when you get older? 2

(b) What is "vascular" biometrics and how is it different from fingerprint technology?   7

(c) Will fingerprint biometrics work in all types of environments for all types of users?   7

(d) Design a Fingerprint recognition system for person recognition. Also explain merits and demerits of Finger print recognition system.   7

Unit-IV

4. (a) What is soft biometrics?   2

(b) What is Smart biometric documentation - why is it important?   7

(c) What should biometric vendors do to accelerate the deployment of biometric technologies?   7

(d) What are various privacy concerns related to biometrics and its implementation? Example with suitable example.   7

Unit-V

5. (a) What is soft biometrics?   2

(b) What is Smart biometric documentation - why is it important?   7

(c) What should biometric vendors do to accelerate the deployment of biometric technologies?   7

(d) What are various privacy concerns related to biometrics and its implementation? Example with suitable example.   7

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300815(22)

APR-MAY
B. E. (Eighth Semester) Examination, 2020

(New Scheme)

(AEI, Bio Tech., Chem., Civil, CSE, Elect., EEE, EI, ET & T, IT, Mech., Mining, Metallurgy, Mechatronics, Prod., Automobile Engg. Branch)

INTERNET & WEB TECHNOLOGY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Part (a) is compulsory. Attempt any two from (b), (c) and (d).

Unit-I

1. (a) Define ISP.   2

   (b) Difference between IPv4 and IPv6.   7

(c) What are important characteristics of HTTP.   7

(d) Explain different types of connectivity.   7

Unit-II

2. (a) Explain significance of URL.   2

   (b) Explain various formatting tags of HTML.   7

   (c) Differentiate between Java and Java Script.   7

   (d) Describe Hypertext Link in detail.   7

Unit-III

3. (a) Write uses of Web Browser.   2

   (b) Differentiate between XML and HTML.   7

   (c) Why we use DTD? Explain.   7

   (d) What is XML Schema?   7

Unit-IV

4. (a) What is Virus?   2

   (b) What is EDI? Explain various electronic payment system.   7

(c) Explain the working and future of firewall. 7

(d) Explain Internet security Threats. 7

Unit-V

5. (a) Define Usenet? 2

(b) Explain FTP in detail. 7

(c) What are the various steps involved in hosting Website. 7

(d) Explain Telnet in detail. 7

300818(22)

BE 8th Semester (New Scheme)
Examination April-May 2020
Branch: Computer Science & Engineering
Big Data & Hadoop
Time Allowed : Three Hours

Maximum Marks : 80   **Passing Marks : 28**

Note : Answer all questions. Part (a) of 2 marks is compulsory. Attempt any two parts from (b), (c) and (d) which are of 7 marks each.

UNIT-1
(a) What is Big Data? Discuss it in terms of 4Vs.
(b) Explain the different categories of Big Data Analytics? How Conventional Data Analytics Systems differ from Big Data Systems.
(c) Differentiate between Reporting and Analysis.
(d) What are the different features provided by big data platforms? List four big data platforms.

UNIT-2
(a) What do you mean by filtering?
(b) What is the role of Stream Computing in Big Data Analytics? Explain Data Stream Management System in detail.
(c) What is the of DGIM algorithm? Explain the algorithm with suitable example.

(d) What is the role of Decaying Windows in Stream Data Analysis? Explain Sampling in Data Streams along with its types.

UNIT-3
(a) What is the default block size in Hadoop 1 and in Hadoop 2 ?
(b) Using suitable block diagram explain the anatomy of Map Reduce Job Run.
(c) Describe the following in terms of HDFS:
   i.   Name Node and Data Node
   ii. Blocks and Input Splits
   iii. Hadoop Streaming
   iv. Hadoop Pipes
   v.   Data Locality Optimization
(d) What do you mean by HDFS federation, failover and fencing?

UNIT-4
(a) Define Hadoop Cluster.
(b) Write detail to setup and configure a Hadoop Cluster.
(c) For enabling security in Hadoop, elaborate:
   i. Kerberos   ii. Delegation Token access
(d) What are the functions required for administering Hadop? Name four standard Hadoop Benchmarks along with its use.

UNIT-5

(a) What is HBASE?

(b) Explain Data Processing Operations in PIG.

(c) What is Zookeeper? List the services provided by Zookeeper. Explain the architecture of Zookeeper.

(d) Write down the process involved in interactive visualization strategies? Briefly explain Data Visualization techniques.

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300884(33)

B. E. (Eighth Semester) Examination, April-May 2020

(Old Scheme)

(AEI, Biotech., Chem., Civil, CSE, Elect., EEE, EI, ET&T, IT, Mech., Mining, Metallurgy, Mechatronics Branch)

DECISION SUPPORT & EXECUTIVE INFORMATION SYSTEM
(Elective-IV)

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note : Attempt all questions. Part (a) from each question is compulsory and carry 2 marks. Attempt any **two** parts from (b), (c) and (d) carry 7 marks each.*

Unit-I

1. (a) What are the major differences between DSS and MIS?

(b) What do you mean by rationality, bounded rationality? How does bounded rationality impact your decisions in daily life?

(c) Define DSS. List the major benefits of DSS. What condition suggest the need for a DSS.

(d) What is business intelligence? How do DSS facilitate business intelligence?

Unit-II

2. (a) What are the different components of DSS?

(b) How data, database management system and data warehousing plays an important role while designing a DSS?

(c) What types of informations are required for managers in decision making? What are the characteristics of information?

(d) What is a model? What do you mean by dimensionality of model? How can a DSS decrease a manager's anxiety about using model?

Unit-III

3. (a) Justify DSS is an intelligent system.

(b) Why programming reasoning is important for making a DSS intelligent?

(c) What are the importance of user interface in a Decision Support System?

(d) What are the different user interface components, which are required to make a DSS more attractive?

Unit-IV

4. (a) Why analysis is required while designing a DSS?

(b) What are the major steps of the system design and construction phases of the DSS development process?

(c) What are the different techniques and approaches required for the designing of a DSS?

(d) Discuss the advantages and disadvantages of using a DSS application and available tools in the design process.

Unit-V

5. (a) "While implementation of DSS in an organization, resistance is natural". Justify the statement.

(b) What sort of parameters are required for implementation and system evaluation?

(c) What are the different risk factors in DSS implementation project?

(d) What role does senior management play in the design, planning and implementation of a DSS in a organization.

300885(22)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

(Old Scheme)

(AEI, Bio Tech., Chem., Civil, CSE, Elect., EEE, EI, ET&T, IT, Mech., Mining Metallurgy, Mechatronics Branch)

SOFTWARE TECHNOLOGY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) from each question is compulsory and contains 2 marks. Attempt any *two* parts from (b), (c) and (d) of each question.

Unit-I

1. (a) Define assembler directive.   2

   (b) What do you mean by Memory model?   7

(c) Write in detail about assembler design process. 7

(d) Explain various kinds of addressing modes and also discuss 1 source link. 7

Unit-II

2. (a) What is Library Linking? 2

(b) What do you mean by Loader? Discuss its types. 7

(c) What is the need of Linker? How many passes it consist? Explain. 7

(d) Explain PIC (Process Independnet Code). 7

Unit-III

3. (a) Define Microprocessor. 2

(b) What do you mean by Macro? Explain nesting in macro. 7

(c) Explain macro processing technique. 7

(d) Explain design of 1-pass macro processor along with its flowchart. 7

Unit-IV

4. (a) What is Compiler? 2

(b) Explain Lexical analyzer. Also explain Lexeme in detail. 7

(c) Differentiate between intermediate and target code of compiler. 7

(d) What is Optimizing Transformation? Explain about code optimization of compiler. 7

Unit-V

5. (a) What do you mean by Text Editor? 2

(b) What is Debugger? Explain context of debugger. 7

(c) Write short note on : 7
   (i) Check pointer
   (ii) Reverse execution

(d) Explain design of text editor. Also discuss about data structure for text sequence. 7

322353(22)

B. E. (Third Semester) Examination, April-May 2020

(New Scheme)

(CSE Engg.)

COMPUTATIONAL SCIENCE

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Part (a) of every question is compulsory. Solve any two from (b), (c) and (d).*

Unit-I

1. (a) What do you mean by flow chart?   2

    (b) Explain about coupling and cohesion in detail.   7

    (c) State the characteristics of programming languages and explain them in brief.   7

(d) Explain the fundamental concepts in software design.   7

Unit-II

2. (a) What do you mean by translator?   2

(b) Explain the terms :   3½×2=7

(i) Virtual computer

(ii) Binding

(c) Write short note on :   3½×2=7

(i) Compiler

(ii) Interpreter

(d) What do you mean by data type? Explain it's different types with example.   7

Unit-III

3. (a) What do you mean by Imperative language?   2

(b) Differentiate between functional and imperative programming language.   7

(c) Describe about LISP language is brief.   7

(d) Write short note on any **two** :   7

(i) ML

(ii) HASKEL

(iii) Object Oriented Programming

Unit-IV

4. (a) What do you mean by neuron?   2

(b) Write short note on any **two** :   7

(i) single layer network

(ii) Activation network

(iii) Auto-associative memory

(c) Explain about Artificial Neural Network.   7

(d) Describe supervised and unsupervised learning method.   7

Unit-V

5. (a) What do you mean by fuzzy logic?   2

(b) Explain Fuzzy set theory with operations and laws in brief.   7

(c) Explain crisp set & it's operations.   7

(d) Given 3-set A, B and C. Prove demorgan's law using venn diagram.   7

322355(22)

B. E. (Third Semester) Examination, April-May 2020

(New Scheme)

(Computer Science & Engg. Branch)

COMPUTER CONCEPTS & WEB TECHNOLOGY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions, parts (a) is compulsory, it carry 2 marks and attempt any 2 from part (b), (c) & (d), it carries 7 marks.

Unit-I

1. (a) What are the basic components of computer?

    (b) What is operating system? Explain various function of operating system.

(c) How data are stored in CD-ROM, and Blue Ray Disk.

(d) Explain Assembler, Interpreter & Compiler.

Unit-II

2. (a) What is E-mail?

(b) What is ISP? Describe Internet Services.

(c) Explain in brief LAN, WAN, MAN SAN & PAN.

(d) Discuss the various types of transmission mode in detail.

Unit-III

3. (a) What is www?

(b) What is DTD? How to define DTD for single element and attribute in XML.

(c) Write a code for creating a login from in HTML.

(d) Write short note : (any **two**)

   (i) Name space

   (ii) XML schema

   (iii) XML parser

Unit-IV

4. (a) Write the name of POP-UP Boxes in Java Script.

(b) Explain the role of CSS in web development. What are the various type of style sheet?

(c) What is AJAX and how it works? Describe DIV and SPAN tag in CSS.

(d) Illustrate try ..... catch statement in Java Script with suitable example.

Unit-V

5. (a) What is DOM?

(b) What is CGI? Create a simple CGI program using PERL.

(c) Explain the use of JAVA Applet. What are the stages of life cycle of Java Applet.

(d) Write a Java program to create an applet.

322633(33)

B. E. (Sixth Semester) Examination, 2020

(Old Scheme)

(CSE Engg. Branch)

MULTIMEDIA & VIRTUAL REALITY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note : Part (a) of each question is compulsory. Attempt any **two** parts from (b), (c) and (d) of each question. The figures in the right-hand margin indicate marks.*

Unit-I

1. (a) Define Multimedia.

    (b) What do you mean by data stream? Explain the data stream characteristics of continuous media.

(c) What are the components of multimedia system? In what format are these data stored in a computer? 7

(d) How are they linked with each other? Explain the evolution of multimedia products in detail. 7

Unit-II

2. (a) Explain MIDI. 2

(b) Write short notes on : 7
   (i) Speech Recongition System
   (ii) Authoring Tools

(c) In what ways are video conferencing standards different from audio conferencing standards? 7

(d) What is an image? Explain the concept of image processing. 7

Unit-III

3. (a) Define hybrid coding. 2

(b) Explain Static and Dynamic Huffman coding techniques with the help of suitable example. 7

(c) Explain the steps involved in JPEG comperession with diagram. 7

(d) Explain different types of viedo compression. 7

Unit-IV

4. (a) Explain optical media. Give examples for optical media. 2

(b) What do you understand by Compact Disk Digital Audio. What are the advantages of Compact Disk Digital Audio? 7

(c) How does magneto-optical technology differe from WORM technology? Explain in detail the working of WORM. 7

(d) How are the errors handled in CD-DA system? Explain 7

Unit-V

5. (a) What is the use of virtual reality? 2

(b) Write note on : 7
   (i) Augmented Reality System
   (ii) Applications of VR

(c) Discuss about the following statement :

   "Virtual Reality environments are made up of graphics, video, sound and a variety of other physical simulation." 7

(d) Explain some of the domain dependent applications in visualization. 7

322811(22)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

(Old Scheme)

(CSE Engg. Branch)

ARTIFICIAL INTELLIGENCE & EXPERT SYSTEMS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all the questions. Part (a) of each unit is compulsory. Attempt any two parts from (b), (c) and (d) from each question.*

Unit-I

1. (a) Enlist the major components of Artificial Intelligence. 2

(b) Explain A^* algorithm with suitable example.   7

(c) What do you understand by state space search? Define the missionaries and cannibal problem with problem space and solve it.   7

(d) Explain alpha-beta pruncing.   7

Unit-II

2. (a) Define propositional knowledge.   2

(b) What are the various steps to convert statements in first order predicate logic to clausal normal form? Convert the following statements into first order predicate logic and then to clausal normal form.   7

    (i) Anyone whom Mary loves is a football star.

    (ii) Any student who does not pass does not play.

    (iii) John is a student.

    (iv) Any student who does not study does not pass.

(c) Write a script for visit to restaurant as knowledge representation.   7

(d) Describe knowledge representation by semantic network.   7

Unit-III

3. (a) What are the various sources of uncertainity?   2

(b) What do you understand by Learning? How is learning achieved by using neural network?   7

(c) Write short notes on :   7

    (i) Dempster-Shafer theory

    (ii) Bayesian-Belief Network

(d) Explain the working of truth maintenance system with suitable example.   7

Unit-IV

4. (a) What is the use of Parsing?   2

(b) Explain the various steps used in natural language processing.   7

(c) What are the various components of planning system? Describe the block world planning problem.   7

(d) Differentiate between forward and backward reasoning. 7

Unit-V

5. (a) Enlist four expert system. 2

   (b) What are the basic characteristics of expert system? Explain the importance of knowledge acquition in expert system. 7

   (c) Explain the rule base system architecture of expert system. 7

   (d) What do you understand by back tracking in PROLOG? Write a PROLOG program to find the length of a list. 7

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322812(22)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

(Old Scheme)

(CSE, IT Branch)

DATA MINING & WAREHOUSING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Solve any two parts from each questions. All the question carry equal marks.*

Unit-I

1. (a) What do you mean by datawarehousing? Explain the need of datawarehousing?

(b) Explain the three tier architecture of data warehouse with diagram?

(c) Explain three tier architecture of data warehouse?

Unit-II

2. (a) What do you mean by dimensional modeling? Explain star schema with suitable example?

(b) What is OLAP? Discuss the basic OLAP operation with example?

(c) What is multidimensinoal data model? Explain with suitable example?

Unit-III

3. (a) Write the procedure to implement and maintain data warehouse.

(b) Explain the function of different type of information delivery tools?

(c) Explain the complete physical design process of data warehouse?

Unit-IV

4. (a) What is data mining and data mining techniques?

(b) Explain KDD process?

(c) Explain classification algorithm?

Unit-V

5. Write short notes : (any **four**)

(i) Web Mining

(ii) Trends in data mining

(iii) Spatial Mining

(iv) Data Mining primitives

(v) Personalization

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322813(22)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

(Old Scheme)

(CSE Engg.)

SOFTWARE PROJECT MANAGEMENT

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : From each unit part (a) is compulsory and attempt any *two* parts of each unit from remaining. Part (a) carries 2 marks & attempt any *two* parts from rest which of 7 marks each.

Unit-I

1. (a)   What is Project?   2

(b) Explain the essential elements of S/W project management.   7

(c) Write down the short notes on :   7

    (i) Gantt chart

    (ii) Network diagram

(d) Explain the role of project manager in detail.   7

Unit-II

2. (a) Explain the four project dimensions.   2

   (b) Explain in detail about the PMJ fundamentals.   7

   (c) Write down the short notes on :   7

    (i) Procurement management

    (ii) SOW

   (d) What is project portfolio management?   7

Unit-III

3. (a) What is 40-20-40 rule?   2

(b) Suppose a project was estimated to be 400 KLOC. Calculate the effort and development time for each of the three model i.e. organic, semidetached and embedded.   7

(c) Briefly explain WBS and WBS techniques.   7

(d) Write down the short notes on :   7

    (i) PERT

    (ii) CPM

Unit-IV

4. (a) What is Risk?   2

   (b) Explain the change management and change control board.   7

   (c) What is EVA and EVA variances.   7

   (d) Explain the type of risk and risk resolution.   7

Unit-V

5. (a) What is black Box testing?   2

(b) Write down the different types of testing.   7

(c) Write down the short notes on :   7

    (i) Performance metrics

    (ii) Test metrics

(d) Explain the migration strategies, project recovery and project success.   7

322831(22)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

∧

(New Scheme)

(CSE Engg. Branch)

ARTIFICIAL INTELLIGENCE and EXPERT SYSTEMS

Time Allowed : Three hours

*Maximum Marks : 80*

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) of each question is compulsory and carries 2 marks and attempt two parts from (b), (c) and (d) and carry 7 marks each.*

Unit-I

1. (a) Comment on the performance issue of dept-first and breadth-first search technique.

   (b) Solve the crypt arithmetic problem :
   SEND + MORE = MONEY

and describe how heuristic is implemented in it.

(c) Describe the mini-max search procedure. Apply $\alpha - \beta$ prunning to the following game tree if maximizer is playing at node A.
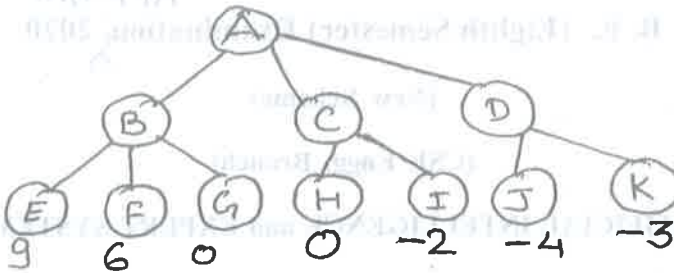
(d) Explain AO^* Algorithm with suitable example.

Unit-II

2. (a) What do you understand by well-formed formula?

(b) Consider the following statements :

   (i) Anyone passing his history exams and winning the lottery is happy.

   (ii) Anyone who studies or is lucky can pass all his exams.

   (iii) John did not study but John is lucky.

   (iv) Anyone who is lucky wins the lottery.

Represent the above statements in FOPL and CNF and prove that John is happy.

(c) Describe the meaning of the following primitive Act in conceptual dependency with suitable example :
GRASP, INGEST, MBUILD, ATRANS, PROPEL, MTRANS, MOVE, PTRANS.

(d) Describe knowledge representation using semantic network. Give the semantic network for the following data :
Tom is a cat. Tom caught a bird. Tom is owned by John. Tom is ginger in colour. Cats like cream. The cat sat on the mat. A cat is a mammal. A bird is an animal. All mammals are animal. Mammals have fur.

Unit-III

3. (a) Enlist the operations available in Fuzzy logic?

(b) What do you understand by learning in Artificial Intelligence? Describe the learning model used in AI.

(c) Illustrate the need of Dempster shafer theory and also explain it.

(d) What do you understand by probabilistic reasoning? Explain Bayesian Belief Network.

Unit-IV

4. (a) What is top down parsing?

   (b) What do you understand by planning? Explain the different components of planning system.

   (c) Solve the following block world problem :

   .Initial state   Goal state

   (d) Consider the statement given below :

   "The big tree shades the old house by the stream". Describe how a recursive transition network recognizes the above statement.

Unit-V

5. (a) Comment on the importance of expert system.

   (b) Discuss the expert system architecture based on non-production system.

   (c) Sketch the architecture of an expert system, showing the major components and interrelationships between these components.

   (d) Write a program in PROLOG to calculate the factorial of any number.

322833(22)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

(New Scheme)

(Specialization : Compeller Science)

(CSE, IT Branch)

CYBER SECURITY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) is compulsory.*
Attempt any **two** *from (b), (c) & (d).*

Unit-I

1. (a) Define Cyber Crime.   2

    (b) Describe various security concepts involved in cyber
    security.   7

(c) Discuss different cyber crime prevention techniques. 7

(d) Which are the industries most exposed to cyber attack and why? 7

Unit-II

2. (a) Define Proxy. 2

(b) Define Flux. Explain fast and advanced fast flux in brief. 7

(c) Explain different fraud techniques used for intruding mobile devices. 7

(d) Write short notes on : 7

(i) Phishing

(ii) Botnets

Unit-III

3. (a) Define Shellcode. 2

(b) What is SQL injection? Explain how attackers make use of SQL injections? 7

(c) Define Race Condition. Explain detection and prevention techniques for Race Condition. 7

(d) Write short notes on :　　　　　　　　　7

    (i)　Cross-site scripting (XSS)

    (ii)　Denial of Services

Unit-IV

4.　(a)　What is Digital Signature?　　　　　2

  (b)　Describe amendments and limitations of IT Act.　　7

  (c)　Write short note on IT Act, 2000 by giving details on major sections dealing with crime.　　7

  (d)　Discuss various types of Cyber Offences.　　7

Unit-V

5.　(a)　Explain trademark law.　　　　　2

  (b)　Explain briefly online dispute Resolution.　　7

  (c)　Discuss the procedure to protect electronic database.　　7

  (d)　Differentiate between copyright and patent.　　7

322840(22)

APR-MAY
B. E. (Eighth Semester) Examination, 2020

(New Scheme)

(CSE, IT Engg. Branch)

NEURAL NETWORK and FUZZY LOGIC

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) of each question is compulsory. Attempt any **two** parts from (b), (c) and (d) of each question.*
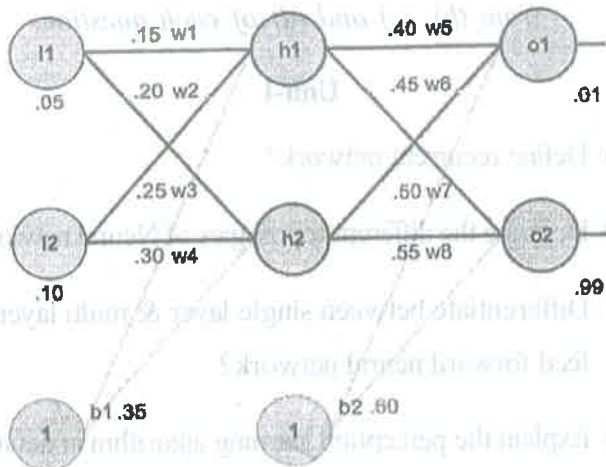
Unit-I

1. (a) Define recurrent network?   2

    (b) Describe the different topologies of Neural network?   7

    (c) Differentiate between single layer & multi layered
        feed forward neural network?   7

    (d) Explain the perception learning algorithm in detail?   7

Unit-II

2. (a) Define stability and convergence?   2

    (b) Describe the competitive learning algorithm in detail.   7

    (c) Explain the credit assignment problem in detail?   7

    (d) Differentiate between supervised and unsupervised learning in detail.   7

Unit-III

3. (a) What is generalized delta rule?   2

    (b) Explain the least mean algorithm in detail?   7

    (c) Simulate the back propagation algorithm.   7

(d) Describe the Adaline algorithm in detail. 7

Unit-IV

4. (a) Define Talking Network. 2

(b) Explain speech recognition system in details. 7

(c) Differentiate between character and handwritten recognition? 7

(d) Describe the different application of pattern recognition? 7

Unit-V

5. (a) Define Fuzzy set? 2

(b) Explain fuzzy associative memory? 7

(c) Describe fuzzy operations in brief? 7

(d) Describe defuzzification in detail? 7

322842(22)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

(New Scheme)

(CSE, IT Engg. Branch)

DISTRIBUTED MULTIMEDIA

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt any two parts from (b), (c) and (d).*
Part (a) from each question is compulsory.

Unit-I

1. (a) Define Distributed system.   2

(b) Explain the different middleware in distributed computing. 7

(c) Explain different components service agent use in distributed system. 7

(d) Write down different application software use in distributed system. 7

Unit-II

2. (a) Define Topologies. 2

(b) Write down the network performance issues occured in distributed system. 7

(c) Explain different type of multimedia server use in distributed multimedia. 7

(d) Write short notes : (any **two**) 7

   (i) Rewritable optical disk

   (ii) Write once read many optical disk

   (iii) Optical disk libraries

Unit-III

3. (a) What is Database? 2

(b) Explain object server architecture for distributed multimedia database. 7

(c) How managing hypermedia records as object in distributed multimedia database? 7

(d) What different data replication techniques use in distributed multimedia? 7

Unit-IV

4. (a) Define system design. 2

(b) Write down different fundamental design issue occur in distributed multimedia. 7

(c) How performance analysis and monitoring manage in distributed multimedia? 7

(d) Explain the data mining enterprise requirements for distributed multimedia. 7

Unit-V

5. (a) Define storage management. 2

(b) Explain system design methodology for distributed system.   7

(c) How maximizing network transportation in distributed environment?   7

(d) Explain different storage managment use in distributed system.   7

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APR-MAY

B. E. (Eighth Semester) Examination, 2020

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(New Scheme)

(Specialization : CSE)

(CSE Engg. Branch)

INTERNET and MULTIMEDIA TECHNOLOGY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) of each question is compulsory and carrying 2 marks each and attempt **two** parts from (b), (c) and (d) carrying 7 marks each.*

Unit-I

1. (a) Define Internet.   2

(b) What is class full addressing? Explain various classes of IPV4? 7

(c) Explain the functions of the ARP and RARP with frame format. 7

(d) Define firewall. Explain and classify different types of firewalls. 7

Unit-II

2. (a) Define PSTN. 2

(b) Explain functional grouping of ISDN. Describe various reference points. 7

(c) Define signaling system and explain layers of SS7. 7

(d) Explain DIAS architecture with example. 7

Unit-III

3. (a) Define piconet and scatternet. 2

(b) Explain IEEE 802.11 protocol. Compare Bluetooth Infrared and 802.11 WLAN. 7

(c) Define mobile IP. Expain direct and indirect routing using mobile IP. 7

(d) Explain the concept of LMDS/PCS WLL with block diagram. 7

Unit-IV

4. (a) Define hypertext and hyper media. 2

(b) Describe the operation of basic jpeg compression technique. 7

(c) Write the features of JPEG-2000 compare the current JPEG standard with JPEG 2000.

(d) Describe MP3 compression scheme. 7

Unit-V

5. (a) Define multimedia. 2

(b) Explain the architecture and benefits of IEEE 1394 interface. 7

(c) Expain the data types and instruction set of MMX technology. 7

(d) Explain the operational architecture of video on demand system. 7

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APR-MAY

B. E. (Eighth Semester) Examination, 2020

(New Scheme)

(CSE, IT Branch)

SOFTWARE TESTING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory. Attempt any **two** parts from (b), (c) & (d).

Unit-I

1. (a) What is software quality?   2

(b) State the role of testing in software engineering process. Also describe the objectives of testing. 7

(c) Describe the Test Planning and Design process in detail. 7

(d) How the Test Execution can be monitored and measured? Write in brief about various Test Tools. 7

Unit-II

2. (a) What is Static Unit Testing? 2

(b) Explain the theory of Goodenough and Gerhart. 7

(c) Write short note upon Adequacy of Testing and Limitations of Testing. 7

(d) How defects can be prevented? Explain the process of debugging. 7

Unit-III

3. (a) What is Control Flow testing? 2

(b) Explain the Data Flow Testing criteria. 7

    (c) Write notes upon Control Flow Graph.   7

    (d) Define Domain errors. How testing of domain errors
        is done, explain?   7

Unit-IV

4. (a) Define Acceptance Testing.   2

    (b) What are test design factors? How they affect the
        test design?   7

    (c) Describe the structure of a System Test Plan.   7

    (d) Write short notes on :   7

        (i) System Testing

        (ii) Types of Acceptance Testing

Unit-V

5. (a) What is SQA?   2

    (b) Compare Quality Control process with the Quality
        Assurance process.   7

    (c) Describe McCall's Quality Factors.   7

(d) Write short notes on the following :   7

    (i)   CMM Model

    (ii) SQA Plan

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APR-MAY
B. E. (Eighth Semester) Examination, 2020

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(New Scheme)

(CSE Engg. Branch)

WIRELESS NETWORKS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) is compulsory.*
*Attempt any **two** parts of three i.e. (b), (c)*
and (d).

1. (a) Define types of Wireless Communication Network.   2

   (b) Describe generation of wireless communication.   7

   (c) Define small scale multi path fading.   7

(d) What is Linear time variant channel model also explain their functions.   7

2. (a) Define Band pass transmission.   2

(b) Define vector space representation of M-Ary signal.   7

(c) Short note on :   7
    (i) M-Ary phase shift keying
    (ii) Gaussian minum shift keying

(d) Describe different Diversity Mechanism.   7

3. (a) Explain call blocking & delay?   2

(b) Explain co-channel & adjacent channel interference.   7

(c) What is Cell splitting?   7

(d) Describe frequency reuse & Mobility Management.   7

4. (a) What is carrier sense multiple access.   2

(b) Explain call admission control (CAC) also explain types of Handoff.   7

(c) Comparsion between CDMA, TDMA, FDMA.   7

(d) Explain Location Management for cellular Network & PCS network. 7

5. (a) What is **ADHOC** Network. 2

(d) Describe wireless application protocol. 7

(c) Comparsion between **IPV4** & **IPV6**. 7

(d) Explain transmission control protocol & also explain their types. 7

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B. E. (Eighth Semester) Examination, April-May 2020

(Old Scheme)

(CSE, IT Engg. Branch)

NEURAL NETWORK & FUZZY LOGIC

(Elective-III)

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note : Part (a) of each question is compulsory and carry 2 marks. In remaining part (b), (c) and (d). Attempt any **two** and carry 7 marks.*

Unit-I

1. (a) Name the persons, who proposed first the basic model of an artificial neuron.

(b) Explain Mc-Culloch-Pitts model of neuron and its assumptions.

(c) Implemented the exclusive-OR function using Mc-Culloch-Pitts neuron model.

(d) Explain recurrect networks in detail.

Unit-II

2. (a) What is sigmoid transfer function?

(b) Describe superwised and unsupervised learning of an ANN.

(c) Explain Hebbian learning algorithm with eample.

(d) What do you mean by Activation functions. Explain with example and its various types in detail.

Unit-III

3. (a) What is Adaline networks?

(b) Explain generalized delta rule in detail.

(c) Explain back propagation algorithm in detail.

(d) Consider a 4-input net with a training input vector and initial weights as :

$$x_i = \begin{bmatrix} +1 \\ -1 \\ +1 \\ -1 \end{bmatrix}, \quad w_i = \begin{bmatrix} +1 \\ -1 \\ 0 \\ -1 \end{bmatrix}$$

Train the given network to achieve target output-1, using the sigmoid activation function. Assume learning rate $\mu = 0 \cdot 1$.

Unit-IV

4. (a) ANN can be used for which type of applications. Give an example.

(b) How ANN are being used for character recognition applications? Describe.

(c) Explain the architecture and training of neocognitron.

(d) Describe handwritten character recognition application development using a block diagram.

[4]

Unit-V

5. (a) Fuzzy logic is used for which type of problems.

(b) Explain fuzzy set operations in detail.

(c) Explain fuzzy associative memories in detail.

(d) Why to use fuzzy logic in Neural network? Give an example.

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322872(22)

B. E. (Eighth Semester) Examination,
April-May 2020

(Old Scheme)

(CSE, IT Engg. Branch)

DISTRIBUTED PARALLEL PROCESSING

(Elective-III)

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Question (a) is compulsory and carries 2
*marks. Attempt any **two** parts from parts (b),*
(c) and (d) from each carries 7 marks.

Unit-I

1. (a) What is Parallel Processing?   2

    (b) Explain the different parallel programming models.   7

(c) Explain the architecture of parallel processing.   7

(d) Discuss the Thread based implementation management.   7

Unit-II

2. (a) What do you mean by distributed computing?   2

    (b) Explain the message passing mechanism in distributed computing.   7

    (c) Explain the PVM Process Control.   7

    (d) Discuss the different types of PVM console commands.   7

Unit-III

3. (a) What is PVM?   2

    (b) Explain remote procedure call in distributed computing.   7

    (c) Explain POSIX thread reference creation.   7

    (d) Discuss the Deploying application in DCE.   7

Unit-IV

4. (a) What is Distributed Computing-1 and Distributed Computing-II.   2

(b) Explain the Parallel Reduction in Parallel Machines.   7

(c) Discuss parallel sorting algorithms.   7

(d) Explain probalistic algorithms for Parallel Machines.   7

Unit-V

5. (a) What is Forton-90?   2

(b) Explain n-CUBE problems.   7

(c) Explain the various Debugging Parallel programming Techniques.   7

(d) Write the difference between Distributed Operating System and Network Operating System.   7

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B. E. (Eighth Semester) Examination, April-May 2020

(Old Scheme)

(CSE, IT Branch)

DISTRIBUTED MULTIMEDIA (PE-III)

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) from each unit is compulsory. Attempt any two Parts from (b), (c) & (d) from each unit.*

Unit-I

1. (a) What is an Image.   2

    (b) How the Audio & Video are stored in your harddisk. 7

(c) What are the various components in service agent explain the User Interface service agent. 7

(d) What is server. What is role of middle ware in distributed work group computing. 7

Unit-II

2. (a) What is multimedia. 2

(b) Explain the working of write once read many optical disks. 7

(c) What are the various topology used for multimedia object server. 7

(d) Write a performance issues in Network. 7

Unit-III

3. (a) What is distributed multimedia. 2

(b) How the hypermedia records are managed in distributed multimedia database. 7

(c) Explain the architecture of object server. 7

(d) Explain the object migration schemes and how do you optimize the object storage. 7

Unit-IV

4. (a) What is data mining. 2

(b) Explain the need for data mining enterprise. 7

(c) What is Business Information model. Explain in brief. 7

(d) How the performance are analysed and monitored in design of data mining enterprise. 7

Unit-V

5. (a) What is object. 2

(b) What are the various storage management scheme. Explain in brief. 7

(c) Explain system design methodology in multimedia. 7

(d) What is object oriented multimedia system explain in brief. 7

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APR-MAY

B. E. (Eighth Semester) Examination, 2020

(Old Scheme)

(CSE, IT Engg. Branch)

(Specialization : Computer Science & Engineering)

DECISION SUPPORT SYSTEM

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *All questions are compulsory. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d) in each section.*

1. (a) What is decision making?   2

(b) Explain Management Information System and Executive Information System in detail. 7

(c) What are the steps of decision making process? 7

(d) Explain Decision Analytics System with respect to strategic decision making. 7

2. (a) Define human cognition. 2

(b) How the Assimilation of Information Technology tools can be useful in Human Cognition? 7

(c) Explain the role of communication in decision making within industry. 7

(d) Discuss various cultural issues in decision making systems. 7

3. (a) Define requisite modelling. 2

(b) Compare prescriptive and descriptive analysis making tools. 7

(c) Explain normative analysis of decision making tools. 7

(d) Explain recognition primed decision model for decision for decision making. 7

4. (a) What is Data Base. 2

(b) Define belief nets. How influence diagrams are useful in decision making? 7

(c) Explain OR modelling tools and various simulation tools available for operational planning. 7

(d) Explain strategic decision support with respect to Decision Analysis. 7

5. (a) What are potential benefits of GDSS? 2

(b) What are the various tools available for Group Decision Support System? 7

(c) Explain intelligent decision support system and its applications. 7

(d) Write short notes on : 7

(i) E-democracy

(ii) E-participation

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B. E. (Eighth Semester) Examination, 2020

(Old Scheme)

(CSE, IT Engg. Branch)

CYBER CRIME & LAWS (PE-III)

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note : All questions are compulsory. Sub question (a) is compulsory from each question. Attempt any **two** sub question from (b), (c) & (d) of each question.*

Unit-I

1. (a) What is phenomenon of emergence in cyber space?   2

(b) What is Web Development and Web Hosting? 7

(c) Explain Hierarchy of Court in detail. 7

(d) Explain the Legal and Technological significance of domain name in internet. 7

Unit-II

2. (a) Explain role of ICT (Information and Communication Technology) in E-Governance. 2

(b) Explain stages of E-Government Development. 7

(c) Explain conceptual view and conceptual model of E-Governance. 7

(d) What are different Legislative approaches toward Electronic Authentication? 7

Unit-III

3. (a) What is Software Patent? 2

(b) Explain traditional copyright law on Database protection. 7

(c) What is Online Dispute Resolution? Explain advantages and disadvantages of Cyber Mediation. 7

(d) What is alternative dispute resolution? Explain its types. 7

Unit-IV

4. (a) Define E-Commerce. 2

(b) Explain the architectural framework of E-Commerce. 7

(c) What is Ethernet & explain its role. 7

(d) Explain Customer to Business and Business to Business of E-Commerce Applications. 7

Unit-V

5. (a) Define E-Governance. 2

(b) Define EDI and layered architecture of EDI. 7

(c) Define the features and functionality of online credit card payment system. 7

(d) Define the term supply chain management & Explain what SCM systems attempt to do?　7

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B. E. (Eighth Semester) Examination, 2020

APR-MAY

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(New Scheme)

(AEI & EI Branch)

OPTICAL INSTRUMENTATION

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) is compulsory in each question. Attempt any **two** out of part (b), (c) and (d) in each question.*

Unit-I

1. (a) Write down some properties of Optical Fibers.   2

(b) Explain in details principle of light propagation through a fiber.   7

(c) Enlist the comparison among absorption, scattering & micro bending losses in optical fibers.   7

(d) What are the sources & detectors used in opticals? Explain any one in details.   7

Unit-II

2. (a) Write down some industrial applications of optical fibers.   2

(b) Explain in details measurement of length in optical fibers using interferometric method.   7

(c) Describe the fiber optics gyroscope for measurement of rotation rate with various applications.   7

(d) Write short notes on :   7

    (i) Measurement of temperature using optical fiber

    (ii) Measurement of liquid level using optical fiber

Unit-III

3. (a) What do you mean by population inversion in LASER?   2

(b) Write short notes on : 7

   (i) Q switching

   (ii) Mode locking

(c) Explain in details about GAS LASER. 7

(d) What do you understand by Three level & Four
    level LASERS? Explain in details. 7

Unit-IV

4. (a) List the advantages of LASER for industrial appli-
       cation. 2

   (b) Explain the measurement of distance using LASER. 7

   (c) Write short notes on : 7

      (i) LASER heating

      (ii) LASER welding

   (d) What are the Atmospheric effect observed in
       industrial application of LASER? Explain in details. 7

Unit-V

5. (a) Write down some medical application of LASER. 2

(b) What do you understand by "HOLOGRAPHY"? Explain basic principle & applications. 7

(c) Describe the procedure for removal of tumors of vocal cords. 7

(d) How we can use holography for non destructive testing? 7

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