S.No. : 403   BCS3701

No. of Printed Pages : 04

B. Tech Examination 2023-24

(Odd Semester)

ARTIFICAL INTELLIGENCE

Time : Three Hours]   *[Maximum Marks :60*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following :   8 × 1=8

    (a)   What is the role of intelligent agent?

    (b)   What do you understand by natural language processing?

    (c)   Describe the first order logic model.

    (d)   Define forward chaining and backward chaining with example.

    (e)   What is an expert system?

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(f)   What is the area of expertise for MYCIN and AM?

(g)   What is LISP? Why it is so popular in AI?

(h)   Explain the steps of PCA in constructing the principal component.

SECTION – B

2.   Attempt any two parts of the following : $6 \times 2 = 12$

(a)   What is meant by the term artificial intelligence? How it is difficult from natural intelligence?

(b)   What is the difference between knowledge representation and knowledge acquisition?

(c)   Explain the term meta knowledge with suitable example.

(d)   What is pattern recognition? Explain various steps involved in the designing of a pattern recognition system.

SECTION – C

Note:-   Attempt any two parts. All parts carry equal marks. $2 \times 20 = 40$

3. (a) Explain the concept of alpha-beta pruning. Write alpha-beta search algorithm.

(b) Explain steepest-ascent hill climbing algorithm. What are the problems with hill climbing algorithm?

(c) Enlist the various strategies for game playing. Explain anyone of it with the suitable example.

4. - (a) Elaborate the term Heurisitic search with the help of suitable example. Write down the heuristic function for 8-puzzle problem and justify.

(b) What are the differences between proposition logic and first order predicate calculus?

(c) What are the three main components of the semantic network?

5. (a) What are the components of DENDRAL? What is the difference between DENDRAL and MYCIN expert system?

(b) What are the major components of a knowledge-based system explain?

(c) Write the advantages and application of self-explaining system.

6. (a) Explain how PCA is used in pattern recognition with the help of suitable example.

(b) Write applications of pattern recognition. Also explain features of pattern recognition processes.

(c) Write short notes on following topics:

(i) LISP

(ii) PROLOG

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S.No. : 69   GE 33231

No. of Printed Pages : 04

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 33233   Roll No. | 1 | 2 | 0 | 0 | 4 | 3 | 2 | 0 | 0 | 6 |

B. Tech. Examination 2023-24

(Odd Semester)

CYBER LAW AND SECURITY

Time : Three Hours]   *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following :   8×1=8

   (a) Briefly define distributed information systems.

   (b) What do you understand by non-repudiation?

   (c) Briefly differentiatebetween information security and privacy.

   (d) Define cyber stalking.

[P. T. O.

(e)   Describe information system.

(f)   What is plagiarism?

(g)   Write full form of CMM.

(h)   Briefly define ethical hacking.

SECTION – B

2.   Attempt any two parts of the following :   2×6=12

(a)   Define mobile security. What are the types of mobile device attacks?

(b)   What do you mean by biometric system? Discuss the advantages of biometrics over traditional authentication methods.

(c)   Draw the diagrammatical approach to make difference between symmetric and asymmetric cryptography.

(d)   What are the main objectives and scope of IT Act, 2000?

SECTION – C

Note :–   Attempt all questions. Attempt any two parts from each question.   5×8=40

3. (a)   What is the difference between security and threats? Explain web security.

    (b)   Discuss function of various networking devices. Also mention devices used in each layer of TCP/IP model.

    (c)   Discuss the tools and techniques employed for cyber security.

4. (a)   What is smart card? Differentiate between credit and debit card.

    (b)   What is digital signature? Give its algorithm.

    (c)   What are types of E-commerce? Describe security threats to E-commerce.

5. (a)   How tunneling takes place in VPN? Explain the advantages of VPN.

    (b)   Explain the concept of intrusion detection system.

    (c)   What do you understand by a firewall? What is the packet filter.

6. (a)   What is intellectual property? Explain with examples.

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(b)   Explain cyber law in India. What are the advantages of cyber law?

(c)   What is software license in cyber security?

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B. Tech Examination 2023-24

(Odd Semester)

NETWORK SECURITY AND CRYPTOGRAPHY

Time : Three Hours]   [Maximum Marks : 60

Note :–   Attempt all questions.

SECTION – A

1. Attempt all parts of the following : $1 \times 8 = 8$

    (a)   Distinguish between active and passive attacks.

    (b)   Define padding in block cipher.

    (c)   Write any two applications of RSA algorithm.

    (d)   What do you understand by Diffie-Hellman Protocol?

    (e)   What are the two categories of digital signature?

(f) Explain the difference between Hash function and Encryption?

(g) What is Kerberos?

(h) List any two applications of x.509 certificate.

SECTION – B

2. Attempt any two parts of the following : $2 \times 6 = 12$

(a) Differentiate between block cipher and a stream cipher.

(b) Elaborate on Fermat's and Euler's theorem.

(c) Elucidate the digital signature standard.

(d) Describe the cryptographic algorithm used in S/MIME.

SECTION – C

Note:- Attempt any two parts from each question. Each part carry equal marks. $8 \times 5 = 40$

3. (a) Explain Cipher feedback mode.

(b) Compare the substitution and transposition Cipher techniques.

(c) Explain symmetric key encryption model with a neat diagram.

4. (a) What is primality test? Explain in brief.

   (b) Describe the RSA algorithm.

   (c) Discuss about the concept of key exchange using Deffie Hellman algorithm.

5. (a) List and explain the properties of Hash function.

   (b) Explain the working of digital signature with the help of neat and clean diagram.

   (c) Explain the four stages of AES algorithm.

6. (a) How does PGP (pretty good privacy) provide confidentiality and authentication service for e-mail? Explain.

   (b) Briefly explain the architecture of SSL.

   (c) Write short note on firewall.

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S.No. : 529   GE 33223

No. of Printed Pages : 04

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 33232   Roll No. | 1 | 2 | 0 | 0 4 | 3 | 2 | 0 | 6 | 8 |

B. Tech. Examination 2023-24

(Odd Semester)

WEB TECHNOLOGY

Time : Three Hours]   *[Maximum Marks : 60*

Note :–   Attempt all questions.

SECTION – A

1.   Attempt all parts of the following :   8 × 1 = 8

   (a)   Write common HTML tag.

   (b)   What is DOM?

   (c)   Write the properties of JAVA beans.

   (d)   Write the properties of EJB.

   (e)   What is SAX?

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-(f)   How to process JSP?

(g)   What is struts framework?

(h)   What is debugging?

SECTION – B

2.   Attempt any two parts of the following :   2×6=12

    (a)   What is the DTD? How can you apply a DTD to an XML document?

    (b)   What is Java beans? What is the relationship between enterprise-Java-beans and Java-beans?

    (c)   What is session? Why would a web server need to store information on a client about the Client's previous requests?

    (d)   What is Servlet? Explain its lifecycle. Compare Servlet programming over CGI.

SECTION – C

Note :–   Attempt all questions. Attempt any two parts from each question.   5×8=40

3.   (a)   What is JSP directives? Explain various types of directives with examples.

(b) Explain implicit objects available in JSP with example.

(c) Write the advantages and disadvantages of XML schemes.

4. (a) Explain the Tomcat Server briefly. What is the process of testing tomcat server?

(b) Differentiate Servlet and Applet with suitable example.

(c) Describe conditional processing in JSP with suitable example.

5. (a) Discuss the JDBC application architecture with neat diagram.

(b) Write the advantages and disadvantages of cookies?

(c) What is the purpose of a style class selector? Discuss class selectors, generic selector, id-selector and universal selectors for CSS with examples.

6. (a) How to access a database from a JSP page? Expalin with an example.

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(b) Design an XML document that stores information about patients in a Hospital-Name, Aadhar Number, Date of Birth, Mobile number, Address, insurance company name, Medical problem. Both attributes and nested tags must be included. Make up sample data for atleast one patient.

~ (c) How to generate dynamic content using JSP? Discuss in details.

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S.No. : 189   OE 33501

No. of Printed Pages : 04

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 33234   Roll No. | 1 | 2 | 0 | 0 | 4 | 3 | 2 | 0 | 6 | ९ |

B. Arch. Examination 2023-24

(Odd Semester)

QUALITY MANAGEMENT

Time : Three Hours]   *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following :   8×1=8

    (a) State the dimensions of quality.

    (b) How to understand review of design?

    (c) How claim analysis is done?

    (d) What is strategic sourcing?

    (e) Define MTTR.

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(f)   What do you understand by quality audit?

(g)   Define 5s.

(h)   Define causes of operator's error.

SECTION – B

2.   Attempt any two parts of the following :   2×6=12

(a)   Explain the procurement procedure in detail with the help of flow chart.

(b)   What is quality cost and optimizing quality cost. Explain any one.

(c)   What is control chart? Discuss application of various charts.

(d)   Discuss the factors to be considered for organization structure for quality management.

SECTION – C

Note :–   Attempt all questions. Attempt any two parts from each question.   5×8=40

3. (a) Human factor is the most important element in quality of a product. justify the answer.

   (b) Discuss the importance of having third party auditing of quality system implementation.

   (c) Explain quality circles in detail.

4. (a) Define the quality circle and explain its philosophy and benefits.

   (b) Draw total product cost versus product reliability curve. Explain in detail.

   (c) What are the factors affecting reliability? Explain the evolution of reliability.

5. (a) What is ISO? Explain quality system ISO : 9000?

   (b) Explain the objectives and steps of Taguchi method.

   (c) State the objectives and challenges control charts.

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6. (a) How the evaluation of supplier is done? Explain.

 (b) What do you understand by quality functions? Explain in detail.

 (c) What are duties of defect monitoring cell in a quality organization?

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