

END TERM EXAMINATION

EIGHTH SEMESTER [B.TECH] JUNE 2024

Paper Code: ETHS402

Subject: Human Values and Professional Ethics-II

Time: 3 Hours

Maximum Marks: 75

Note: Attempt all questions as directed. Internal choice is indicated.

- Q1 Write short notes on **any five** of the following:- (5x5=25)
- Indian Pluralism
 - Ethical Egoism
 - Collegiality
 - Embezzlement
 - Right to Information (RTI)
 - Corporate Social Responsibility (CSR)
 - Whistle-Blowing
- Q2 Explain the Bhopal gas leak case with the ethical issues involved. (12.5)
- OR**
- Q3 What is trust? Explain the elements of Trust. (12.5)
- Q4 "Discrimination leads to acrimony in relationships." Explain. What problems are created when we discriminate? (12.5)
- OR**
- Q5 Discuss the broad categories of Computer Crimes. (12.5)
- Q6 How is confidentiality important for an engineer's profession? (12.5)
- OR**
- Q7 Describe the code of ethics for IT professionals approved by CSI. (12.5)
- Q8 Business and Ethics do not go together. Discuss the statement and give reasons for and against it. (12.5)
- OR**
- Q9 Explain how ecological sustainability is affected by farming, energy and the environment. (12.5)

END TERM EXAMINATION

EIGHTH SEMESTER [B.TECH] JUNE 2024

Paper Code: ETIT-402

Subject: Mobile Computing

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.No.1 which is compulsory. Select one question from each unit. Assume missing data if any.

- Q1 Attempt **any Five** of the following questions:- [5x5=25]
- a) What were the reason behind the implementation of WAP services with WML?
 - b) Mention the features of mobile internet.
 - c) Explain the WAP architecture in brief.
 - d) Explain the Data dissemination issues in mobile networks.
 - e) Differentiate between tunneling and reverse tunneling.
 - f) With the help of neat protocol stack, draw and explain three-tier architecture for mobile computing. What are mobile nodes? Explain.

UNIT-I

- Q2 What is mobile computing? List its key characteristics. Write down the applications of mobile computing. [12.5]
- Q3
- a) Explain Generation of Mobile services. [6]
 - b) Describe the working of a contention-based MAC protocol with suitable examples. [6.5]

UNIT-II

- Q4 Compare and Explain IEEE 802.11 (WLAN) and IEEE 802.15 (Bluetooth). [12.5]
- Q5 Write down Short note on following (**any two**): [6.25, 6.25]
- a) WiMax technology and its application.
 - b) ZigBee Technology and its usage.
 - c) Mobile Handover Procedure

UNIT-III

- Q6
- a) Differentiate between ad-hoc network and infrastructure-based network. [6]
 - b) Explain DSR routing protocol in details. [6.5]
- Q7
- a) What is snooping TCP approach in mobile wireless networks? Discuss its advantages. [6]
 - b) Explain location management in mobile networks. [6.5]

UNIT-IV

- Q8
- a) What are the various methods for Data Synchronization? Explain. [6]
 - b) Explain the concept of wireless markup language. [6.5]
- Q9
- a) Compare the feature sets of Android, Symbian, and Windows Phone operating systems. [6]
 - b) Explain the architecture palm OS. What are the constraints of mobile device OS? [6.5]

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EIGHTH SEMESTER [B. TECH] JUNE 2024

Paper Code: ETEC-406 Subject: Ad Hoc and Sensor Networks Maximum Marks: 75

Time: 3 Hours

Note: Attempt five questions in all including Q.No1 which is compulsory. Select one question from each unit.

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- Q7 a) What is network security attack? Explain the network security requirements. (6)
- b) Discuss the layered and clustered architecture of sensor network (6.5)

UNIT-IV

- Q8 a) Explain Optical wireless network with diagram. (6)
- b) What is wireless geo-location? Explain the architecture and standards of geo-location system. (6.5)
- Q9 Write short note on the following: - (6.25x2=12.50)
 - a) Meghadoot architecture
 - b) Vehicular sensor network

- Q1 a) Differentiate an ad hoc network and a cellular network with respect to bandwidth usage and cost effectiveness. (4)
- b) Discuss the difference in topology reorganization in DSDV and CGSR protocols. (4)
- c) Differentiate between data dissemination and data gathering. (4)
- d) Draw the frame format of IEEE 802.11 physical layer using DSSS. (4)
- e) Explain the major issues to be considered in designing a routing protocol for an Ad-Hoc network. (5)
- f) Explain technologies used for wireless geolocation. (4)

UNIT-I

- Q2 a) What is Ad-Hoc Network? Explain the architecture of Ad-Hoc Network. (6.5)
- b) Discuss the contention-based MAC protocols with scheduling mechanism. (6)
- Q3 a) Classify the MAC protocol and what are the advantages of reservation mechanism over scheduling mechanism contention-based protocols? (6.5)
- b) What is hidden and exposed terminal problems? (6)

UNIT-II

- Q4 a) Why secure routing protocols are needed? List issues and challenges insecurity provisioning of transport layer. (6)
- b) List the characteristics of ideal routing protocols for Ad-Hoc wireless network (6.5)
- Q5 a) What are the major functions performed by TCP? (6)
- b) Why is power management important for Ad-Hoc wireless networks? Briefly explain the approaches for power-aware routing protocol. (6.5)

UNIT-III

- Q6 a) Calculate the value of reuse factor (k) required for an average neighbor density of 6. The number of nodes in the cell is 100 and the cell radius is 500 meters. (6)
- b) Explain about the hardware components used in the sensor network. (6.5)

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EIGHTH SEMESTER [B.TECH] JUNE 2024

Paper Code: ETIT-410

Subject: Soft Computing

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.No.1 which is compulsory.
Select one question from each unit.

- Q1 All question are compulsory.
- a) What is Artificial Neural Network? Discuss its characteristics. (5)
 - b) What are fuzzy set? Explain various operators on Fuzzy Set. (5)
 - c) Compare biological neural network with ANN. (5)
 - d) Discuss the applications of Genetic Algorithm in detail. (5)
 - e) Explain De-fuzzification. (5)

UNIT-I

- Q2 a) Give characteristics of multi layer perceptron. Explain multi layer perceptron model? (6.5)
- b) Explain and differentiate between Supervised and Unsupervised learning Paradigm. (6)
- Q3 a) Explain different Activation functions. (6.5)
- b) Draw a biological NN and explain its part. (6)

UNIT-II

- Q4 Explain operations on fuzzy sets in detail with examples. (12.5)
- Q5 Discuss how learning rate coefficient affects the back propagation training. (12.5)

UNIT-III

- Q6 Differentiate between Fuzzy set and Crisp set. Why fuzzy is better than crisp? (12.5)
- Q7 Explain various properties of fuzzy Arithmetic and Lattice of fuzzy numbers. (12.5)

UNIT-IV

- Q8 Explain Fuzzy inference system. What is fuzzy preposition? (12.5)
- Q9 Write short note on - (6.5)
- a) Reinforcement learning (6)
 - b) Neuro fuzzy system.

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EIGHTH SEMESTER [B. TECH] JUNE 2024

Paper Code: ETT-428

Subject: E-Commerce & M-Commerce

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q. no. 1 which is compulsory. Select one question from each unit

- Q1
- (a) Explain the concept of e-procurement. Discuss the risks and impacts involved in implementing e-procurement systems. Focus on estimating the cost savings associated with e-procurement. (5)
 - (b) Describe the key elements of analysis and design in e-business systems. Discuss the importance of user-centered site design and security design for e-business platforms. (5)
 - (c) Explain the concept of digital currencies and their role in online transactions. Discuss the optional process of Digicash and Ecash Trail, highlighting their advantages and limitations compared to traditional payment methods. (5)
 - (d) Briefly explain the role of cryptography in ensuring secure online transactions. Describe the process of key distribution and certification in cryptographic systems and its importance in maintaining data integrity and confidentiality. (5)
 - (e) Explain the concept of content caching in M-commerce and its importance in enhancing user experience. Discuss how content caching contributes to faster access to mobile content and reduced network latency. (5)

UNIT-I

- Q2
- (a) A retail business implemented digital currencies and payment systems to streamline their online transactions. Assess the impact of these payment methods on their business operations and customer experience. Discuss the advantages of offline secure processing and private data networks in enhancing transaction security and customer trust. (6.5)
 - (b) Compare and contrast different electronic payment methods used in secure online transactions. Explain the concept of offline secure processing and its significance in private data networks, considering its impact on transaction security and data privacy. (6)
- Q3
- (a) Describe the evolution of electronic payment systems, starting from the first virtual internet payment system to modern digital payment solutions. Discuss the cyber cash model, digital currencies, and the use of smart cards in electronic transactions. (6)
 - (b) A multinational retail corporation is evaluating different online commerce platforms to enhance its e-commerce capabilities. Compare and analyze the features any two such platforms focusing on their capabilities, customization options, scalability, and market impact. Provide insights into the potential benefits and challenges each platform presents for the retail corporation's online business expansion strategy. (6.5)

- Q4
- A retail business is adopting digital payment systems to streamline its online transactions. Analyze the cyber cash model and the first virtual internet payment system. Discuss the benefits and challenges of using digital payment systems in the retail industry, considering security, convenience, and customer experience. (12.5)
- Q5
- Discuss the significance of security protocols in public transport of private information, including HTTPS and SSL. Analyze the process of integrating security protocols into the web and their role in ensuring secure electronic transactions. (12.5)

UNIT-III

- Q6
- Analyze the e-CRM concept, focusing on conversion marketing and the online buying process. Discuss customer acquisition management strategies and the role of marketing communications in customer acquisition and retention. Provide recommendations based on the case study for improving the effectiveness of e-CRM initiatives and driving long-term customer loyalty. (12.5)
- Q7
- Define supply chain management and explain its significance in modern business operations. Discuss the concept of the value chain and how it contributes to enhancing the efficiency and effectiveness of supply chain management. (12.5)

UNIT-IV

- Q8
- Discuss the M-commerce life cycle, including its stages and the activities involved in each stage. Provide examples to illustrate how businesses can effectively manage the M-commerce life cycle for sustained success. (12.5)
- Q9
- What are the key elements of managing content development, distribution to handheld devices, content caching, and pricing strategies in M-commerce? Discuss the significance of emerging wireless LANs and 4G/5G networks in supporting M-commerce success. What challenges does personalize content management face, and how can companies address these challenges while focusing on futuristic M-commerce services and addressing emerging issues? (12.5)

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