

CENTRAL UNIVERSITY OF HARYANA

End Semester Examinations Jan2023

Programme: M.Tech (Energy System and Management)

Session: 2022-23

Semester: 3rd

Max. Time: 3 Hours

Course Title: Energy Auditing and Management

Max. Marks: 70

Course Code: MTESM-301

Instructions:

1. Question no. 1 has seven parts and students need to answer any four. Each part carries 3.5 Marks.

2. Question no. 2 to 5 have three parts and students need to answer any two parts of each question. Each part carries seven marks.

Q 1. (4X3.5=14)

- How to calculate the electricity tariff?
- Write down the steps involved in 'Energy management Strategy'?
- Distinguish between 'preliminary energy audit' and 'detailed energy audit'?
- Define 'energy management'.
- What do you mean by energy audit?
- How to manage the reactive power in a network.
- Explain the type of cogeneration.

Q 2. (2X7=14)

- What are the benefits for energy audit? Explain its type and objectives.
- What are the minimum energy paths consumption models? Discuss in details.
- Explain the Electricity tariff types in detail.

Q3. (2X7=14)

- Discuss the case study of high efficient Motors.
- Which efficient control strategies used in pumps and fans? Explain in details.
- How to find the optimal selection and sizing of the electric motor in case of performing high efficient motor?

Q 4. (2X7=14)

- Any requirement of feeder load evaluation. What is the benefit of load evaluation?
- How to analysis the efficiency of transformer? Explain step by step.
- Which case study used for Industrial loads scheduling? Also explain the peak load controlling methodologies.

Q 5. (2X7=14)

- How to work solar water heater? Explain in details.
- Explain optimal operation of cogeneration plants case study.
- Explain the optimal model of air conditioning & Refrigeration load.

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Central University of Haryana

Term End Examinations Jan 2023

Program: M.Tech. (Civil) Structural Engineering

Semester: III

Course Title: Research Methodology (RM)

Course Code: MT CE 302

Session: 2022-23

Max. Time: 3 hours

Max. Marks: 70

Instructions:

1. Question no. 1 has seven sub parts and students need to answer any four. Each question carries three and half marks each.
2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each question carries 7 marks each.

Question No. 1 Write a short note.

(4x3.5=14)

- a) Intellectual Property Rights
- b) Reliability and Validity
- c) Intuition
- d) Subjective Vs Objective
- e) Continuous Variable
- f) Copyright
- g) Discrete Variable

Question No. 2

(2x7=14)

- a) What is research? Discuss characteristics and types of research approach?
- b) Explain four research methods with examples?
- c) What is research design? Explain its format in detail?

Question No. 3

(2x7=14)

- a) What are steps and format of writing a research paper?
- b) Explain the research dissertation format through an example?
- c) What is literature review? Discuss types of the sources of literature with examples?

Question No. 4

(2x7=14)

- a) What is data? Explain two statistical tools used to analyze data?
- b) What is a presentation tool? Explain one such tool with its features?
- c) How to create presentations? What things a researcher need to keep in mind while presenting presentation?

Question No. 5

(2x7=14)

- a) Define research proposal? Explain its format?
- b) What is plagiarism? Discuss its different types?
- c) What is measurement scale? Explain five measurement scales/units used in civil engineering?

End

Central University of Haryana

Term End Examinations Jan 2023

Program: M.Tech. (Civil) Structural Engineering
Semester: III
Course Title: Research Methodology (RM)
Course Code: MT CE 302

Session: 2022-23
Max. Time: 3 hours
Max. Marks: 70

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- b) What is plagiarism? Discuss its different types?
- c) What is measurement scale? Explain five measurement scales/units used in civil engineering?

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CENTRAL UNIVERSITY OF HARYANA

Term End Examinations January 2023

Programme: M. Tech. (CSE)

Session: 2022-23

Semester: Third

Max. Time: 3 Hours

Course Title: Disaster Management

Max. Marks: 70

Course Code: MT AU 102

Instructions:

1. Question no. 1 has seven parts and students are required to answer any four. Each part carries three and half Marks.
2. Question no. 2 to 5 have three parts and student are required to answer any two parts of each question. Each part carries seven marks.

Q 1. (4X3.5=14)

- a) Given the names of areas prone to flood, avalanches and cyclone in India?
- b) What are the structural non structural mitigations of disaster?
- c) What are the disaster risks? Describe their concepts and elements?
- d) Describe the oil spill with two suitable examples in details?
- e) Explain what would be the strategy of survival in the period of disaster?
- f) What would be the technique of disaster risk assessment?
- g) Give the details account of Bhopal Gas Tragedy?

Q 2. (2X7=14)

- a) What is remote sensing? Describe the applications in details?
- b) What are the disaster risks: concept and elements, Disaster risk reduction, global and National disaster risk situations?
- c) Give brief account of the meaning, concept and strategy of disaster mitigation?
Emerging trend in mitigation?

Q3. (2X7=14)

- a) How to do disaster management? What could be the possible post disaster action taken by individual and government body discuss in details?
- b) What are the landslide and avalanches? Their causes, impact on environment discuss in details?
- c) What is earthquake? Causes of earthquake, Seismic waves and seismic zones in Indian scenario discuss in details?

Q 4. (2X7=14)

- a) What is volcanism, factors and impact on environment?
- b) Define the flood, types and their impact on individual and environment discuss in details?
- c) Give the detailed explanation of Man-made and natural disaster and also provide the details of at least two examples for both?

Q 5.

(2X7=14)

- a) What is the drought define the causes, impact on man and environment explain in details?
- b) What is the tsunami, define the causes and impact on environment?
- c) Define the disaster, factors and significance, difference between hazard and disaster, nature types and magnitudes of disaster?

Central University of Haryana

Term End Examinations Jan 2023

Program: M.Tech. Computer Science Engineering
Semester: III
Course Title: Research Methodology and IPR (RM & IPR)
Course Code: MT CS 301

Session: 2022-23
Max. Time: 3 hours
Max. Marks: 70

Instructions:

1. Question no. 1 has seven sub parts and students need to answer any four. Each sub question carries three and half marks each.
2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each sub question carries 7 marks each.

Question No. 1 Write a short note.

(4x3.5=14)

- a) Patent
- b) Intellectual Property Rights
- c) Reliability and Validity
- d) Design
- e) Subjective Vs Objective
- f) Copyright
- g) Discrete Variable

Question No. 2

(2x7=14)

- a) What is research design? Explain its format in detail?
- b) Define research, its characteristics and explain types of research approach?
- c) Explain four research methods with examples?

Question No. 3

(2x7=14)

- a) What are steps and format of writing a research paper?
- b) What is research proposal? Explain its format?
- c) What is literature review and discuss types of the sources of literature with examples?

Question No. 4

(2x7=14)

- a) Define IPR? Explain its four types?
- b) What is copyright? Explain the resources to which it is applicable?
- c) How to create presentations? What things a researcher need to keep in mind while presenting presentation?

Question No. 5

(2x7=14)

- a) What is geographical indications? Explain four such geographical indications?
- b) Explain the research dissertation format through an example?
- c) Define patent rights? Explain its process with examples?

End

CENTRAL UNIVERSITY OF HARYANA

Term End Examinations January 2023

Programme: M.Tech. (CSE)
Semester: Third
Course Title: Wireless and Mobile Networks
Course Code: MT CS 306

Session: 2022-23
Max. Time: 3 Hours
Max. Marks: 70

Instructions:

- Question no. 1 has seven parts and students need to answer any four. Each part carries three and half Marks.
- Question no. 2 to 5 have three parts and student need to answer any two parts of each question. Each part carries seven marks.

Q1		(4X3.5=14)
A	Differentiate Wireless and Wired Networks.	
B	Compare Mobile IPv4 and Mobile IPv6.	
C	List any four applications of WSN.	
D	Differentiate between hard handoff and soft handoff in cellular communication.	
E	List and briefly explain key requirements for VANET.	
F	Briefly define IEEE 802.11 services.	
G	Mention the most relevant kinds of memory for sensor nodes from energy perspective.	
Q2		(2X7=14)
A	What are the Security issues in Wireless Networks?	
B	Explain Bluetooth protocol stack with neat diagram.	
C	Write a technical note on the following :- i) PAN ii) DTN	
Q3		(2X7=14)
A	What are hidden terminal and exposed terminal problems? Explain with example.	
B	Discuss the role of DHCP in wireless networks. Also explain its working with example.	
C	Why the traditional IP cannot be used in a mobile network? What are the main differences between the traditional IP and the mobile IP? How does mobile IP support mobile hubs?	
Q4		(2X7=14)
A	Describe the design challenges and issues in MANET in wireless communication.	
B	Discuss the Pros and Cons of a routing protocol that uses GPS information for an Adhoc wireless Network for search and rescue operation.	
C	What is AODV and explain its working in detail? Also discuss its significance in MANET.	
Q5		(2X7=14)
A	i) State the fundamental tasks of Address Management in WSN. ii) Give the significance of uniqueness of addresses w.r.t WSN.	
B	i) Differentiate between contention based protocols and schedule based protocols. ii) Consider the third iteration of leach protocol. If the desired number of nodes per cluster is 10, what is the threshold calculated for a node during its random number generation?	
C	Can the MAC protocols of 802.11 & Bluetooth be used for WSN? Justify.	

