Code No. D-2425/N/AICTE

FACULTY OF ENGINEERING

B. E. (Civil/EEE/EIE/CSE/CME/DS) I – Semester (AICTE) Bridge Course (New) (Main) Examination, March / April 2022

Subject: Essence of Indian Traditional Knowledge

Time: 3 hours **Max. Marks: 70**

Note: i) First question is compulsory and answer any four questions from the remaining six questions. Each question carries 14 marks.
ii) Answers to each question must be written at one place only and in the same order as they occur in the question paper.
iii) Missing data, if any, may suitable be assumed.

1. a) Define Philosophy
   b) What is Ahimsa?
   c) What is Yoga?
   d) What is Heritage?
   e) Literature of South India – Explain.
   f) Four noble Truths – Explain in brief.
   g) What is Social Law?
2. a) Explain the source of Indian Philosophy?
   b) What are the general characteristics of culture?
3. a) Write an essay on Indian Languages and Literature?
   b) Explain the Culture and Literature?
4. a) Write a note on Philosophy and Religion?
   b) Discuss about the Buddhism.
5. a) Explain the divisions of Indian Classic Music.
   b) Write a note on “Indian Handicrafts”?
6. a) Explain the Vedic and Puranic Education System?
   b) Explain the “Indian Architecture” – Discuss.
7. a) Explain the aims of Indian Education System.
   b) Write a note on NEP/2020 – New Education Policy.

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Code No. D-2421/O/AICTE

FACULTY OF ENGINEERING

B.E. (Civil/EEE/EIE/CSE/CME/DS) I – Semester (AICTE) Bridge Course (OLD) (Backlog) Examination, March / April 2022

Subject: Essence of Indian Traditional Knowledge

Time: 3 Hours **Max. Marks: 70**

(Missing data, if any, may be suitably assumed)

PART – A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 What is civilization?
2 What is Ahimsa?
3 How many Vedas – explain?
4 Heritage – explain in brief.
5 Define philosophy.
6 What is Yoga?
7 What is social law?
8 What are the aims of Indian Education System?
9 "Indian Architecture" – explain in brief.
10 Write a short note on "Modern Indian Music".

PART – B

Note: Answer any five questions. **(5 x 10 = 50 Marks)**

11 Explain the general characteristics of culture.

12 Write an essay on Indian Languages and Literature.

13 What is the moral value of Karma according to Buddhism?

14 Explain the philosophy of Religion.

15 Write a note on Dance and Drama.

16 Write an essay on science and scientists of modern India.

17 Explain the ethics issues of Information Technology.

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Code No: D-3606/CBCS

FACULTY OF ENGINEERING

B.E (Civil) V - Semester (CBCS) (Backlog) Examination, March / April 2022

Subject: Infrastructure Engineering
Professional Elective - I

Time: 3 Hours **Max marks: 70**

(Missing data, if any may be suitably assumed)

PART – A

Note: **Answers all questions**. **(10 x 2 = 20 Marks)**

1 What is the importance of Infrastructure Engineering?
2 List the benefits of Infrastructure Privatization?
3 Mention the different types of Organizations.
4 Explain the concept of life cycle?
5 State the legal and contractual issues in Infrastructure?
6 Mention social impacts on Assessment.
7 What do you mean by Demand Risks?
8 Write roads infrastructure needs in India.
9 Describe BOOT projects?
10 What do you mean by Infrastructure management system?

PART - B

Note: Answers any five questions. **(5 x 10 = 50 Marks)**

11. (a) Discuss in detail about the Urban and Rural Infrastructure
(b) Describe the significance of Special Economic Zones.

12. (a) Present the historical overview of Privatization in Infrastructure Engineering.
(b) Discuss the challenges in Privatization in India with a case study.

13. (a) Write about mapping and facing the landscape of risks in Infrastructure Projects.
(b) Describe in detail Environmental Laws and Regulations.

14. (a) Mention the cultural risks in international Infrastructural projects.
(b) List the challenges in construction and maintenance of Infrastructure.

15. (a) What is the role of government in shaping the Infrastructural projects.
(b) Discuss the different stages in Infrastructure projects.

16. (a) State factors influencing a good Infrastructure planning and management.
(b) What are the risks involved in Infrastructure projects.

17. Write short notes on any **TWO** of the following:
(a) Core Economic and Demand Risks.
(b) PPP projects.
(c) Stages in Infrastructure project.

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Code No: D-3618/CBCS

FACULTY OF ENGINEERING

B.E. (EEE) V - Semester (CBCS) (Backlog) Examination, March / April 2022

SUBJECT: FACTS DEVICES
Professional Elective – I

Time: 3 Hours **Max marks: 70**

(Missing data, if any may be suitably assumed)

PART – A

Note: **Answers all questions**. **(10 x 2 =20 Marks)**

1. List out different FACTS controllers.
2. What are different control parameters in AC System.
3. Discuss SVC.
4. Explain basic principle of STATCOM.
5. List the models of TCSC.
6. List few object of series compensation.
7. Explain usefulness of UPFC in power industry
8. Give the frequency range of different control parameter.
9. How to prevent voltage instability in FACTS.
10. What is need of compensation?

PART - B

Note: Answers any five questions. **(5 x 10 = 50 Marks)**

11. a) Distinguish between shunt connected controllers with series connected Controllers.
    b) What is difference between current source and voltage source converters?

12. Describe in detail about SVC and STATCOM.

13. Explain capability of UPFC to control real and reactive power flow in transmission line.

14. a) Explain the method of voltage control by SVC.
    b) Discuss the role of TCSC in enhancement of system damping

15. a) How to improve system stability of transmission lines in FACTS?
    b) Explain in detail about UPQC.

16. a) What are the methods for protection against Over Voltage.
    b) Discuss Power oscillation damping.

17. What is static VAR compensator? List them and explain any two.

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Code No. D-3621/CBCS

FACULTY OF ENGINEERING

B.E. (EIE) V - Semester (CBCS) (Backlog) Examination, March / April 2022
Subject: Advanced Sensors
Professional Elective – I

Time: 3 Hours **Max. Marks: 70**

(Missing data, if any, may be suitably assumed)

PART – A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1. List out the various System Characteristics for application Consideration.
2. What do you mean by Bio receptor molecules?
3. Define Transfer function, Sensitivity and Span.
4. What are the fundamental requirements of Smart Sensors?
5. Give a detail working of an application of Smart Sensors.
6. Differentiate between MEMS and NANAO Systems.
7. Mention different types of Sensors.
8. List out the applications of Smart Sensors.
9. What is Robotic Vision?
10. What is the working principle of Fiber optic sensor?

PART – B

Note: Answer any five questions. **(5 x 10 = 50 Marks)**

11 (a) Explain a few guidelines for Selecting the Installation of the sensors.
(b) Discuss the fundamental requirements of basic Sensor technology.

12 (a) With a neat diagram, explain the working principle of Micro machining.
(b) List out the Bio medical applications of MEMS and NANO sensors.

13 (a) What is Smart sensor? Explain.
(b) With a neat diagram, explain the operating principle and working of Inductance in sensor application.

14 (a) What are Chemical Sensors? Explain any one in detail with relevant figures?
(b) With a neat schematic, explain the working principle of fiber optic sensor for measurement of temperature.

15 (a) Outline the important characteristics of Robotic Sensors**.**
(b) Explain the inductive proximity sensor using suitable figures.

16 Explain in detail any one application of Bio sensor and also mention the Future prospects of Bio sensors.

17 Write Short notes on:
(a) Ion Selective Electrodes
(b) Origin of Bio sensors
(c) Electromagnetism mechanism in Sensing.

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Code No. D-3646/CBCS

FACULTY OF ENGINEERING

B.E. (CSE) V - Semester (CBCS) (Backlog) Examination, March / April 2022

Subject: Artificial Intelligence
Professional Elective – I

Time: 3 Hours **Max. Marks: 70**

(Missing data, if any, may be suitably assumed)

PART – A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 Define heuristic function and search in a state space.
2 Differentiate depth first iterative deepening and depth first search.
3 What is a semantic network and how it is used to represent knowledge?
4 Prove that the following theorem $[(A \rightarrow B) \wedge (B \rightarrow C)] \rightarrow (A \rightarrow C)$ in natural deduction system.
5 Prove the following theorem using natural deduction system A∧B *infer* A∧(BVC).
6 State Bayes Theorem?
7 What is an artificial neuron?
8 What is perceptron? What are its limitations?
9 Differentiate between supervised and unsupervised learning.
10 List the different types of parsers and explain any one of them.

PART – B

Note: Answer any five questions. **(5 x 10 = 50 Marks)**

11 (a) Solve the following crypt arithmetic problem with the help of constraint satisfaction. Two + Two= four.
(b) Explain alpha-beta pruning with example.

12 What are the different methods that are available in proving the validity of the formula and construct a semantic table for the formula (A∧~B) ∧(~B->C)?

13 (a) Explain about the truth maintenance system.
(b) Explain Bayesian belief network.

14 Draw the architecture of expert system and explain how truth maintenance system is used in expert systems.

15 What is semantic web? Explain how resource description framework is used to build semantic web.

16 Explain the various phases in Natural Language Processing.

17 Explain the construction of Decision tree with an example.

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Code No. D-3653/CBCS

FACULTY OF ENGINEERING

B.E. (IT) V - Semester (CBCS) (Backlog) Examination, March / April 2022

Subject: ARTIFICIAL INTELLIGENCE
Professional Elective – I

Time: 3 Hours **Max. Marks: 70**

(Missing data, if any, may be suitably assumed)

PART – A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1. List the different exhaustive searches.
2. Define Turing test.
3. List the main components of an expert system. Define mass function.
4. Write short notes on semantic networks.
5. Explain the different types of layers in artificial neural networks.
6. Explain an expert system.
7. Define skolemization.
8. State and explain logical entailment in predicate calculus.
9. Write the expression for sigmoid function.
10. State plausibility.

PART – B

Note: Answer any five questions. **(5 x 10 = 50 Marks)**

11. (a) Show that the statement "If it is humid then it will rain and since it is humid today it will rain" is a valid argument.
    (b) Write and explain best first strategy and explain how it combines DFS and BFS approaches.

12. (a) Obtain the resolution proof for the proposition "Angle B is equal to Angle C' from the following axioms :
        i) If a triangle is equilateral then it is isosceles
        ii) If a triangle is isosceles then two sides AB & AC are equal
        iii) If AB & AC are equal then angle B and angle C are equal
        iv) ABC is an equilateral triangle
    (b) Write short notes on Hill climbing.

13. (a) Differentiate between expert systems and traditional systems.
    (b) Describe Bayesian Network. Sketch a Bayesian Network to illustrate its construction for an example problem.

14. (a) Explain Dempster – Shafer theory.
    (b) Define perceptron and design a perceptron for the Boolean function.

15. Explain A* Algorithm with an example and describe admissibility in A*.

16. Draw and explain the architecture of expert system.

17. Write notes on:
    (a) Knowledge representation using Frames
    (b) Artificial neural networks.

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Code No. D-3655/CBCS

FACULTY OF ENGINEERING

B. E. (IT) V – Semester (CBCS) (Backlog) Examination, March / April 2022

Subject: Multimedia Technologies

Professional Elective – I

Time: 3 hours **Max. Marks: 70**

(Missing data, if any, may be suitably assumed)

PART – A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1. What is Multimedia?
2. List the Multimedia software Tools?
3. List the various Popular File Formats?
4. What are the color Models in video?
5. What is quantization?
6. What is Digitization of sound?
7. List the Lossless Compression Algorithms?
8. What are the Basic Audio Compression techniques?
9. What is Content Based Retrieval?
10. Give the applications of Multimedia communication?

PART – B

Note: Answer any five questions. **(5 x 10 = 50 Marks)**

11. Explain the basic concepts of multimedia data formats, protocols?

12. Discuss about the Compression techniques of digital images in detail?

13. Compare Lossless Compression and lossy Compression?

14. What is VRML? Describe some Useful Editing and Authoring Tools?

15. Explain any two multimedia tools in detail?

16. Describe the principles and technical details of several wireless networking protocols?

17. Develop simple but demonstrative multimedia applications?

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