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R18

Course Code: A30523



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: WEB TECHNOLOGIES

(Common for CSE & IT)

Date: 08.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What are the data types supported by PHP? 2 M
2. Enumerate few Built-in functions in PHP. 2 M
3. What is XML? List characteristic features of XML. 2 M
4. What are the different types of Lists in HTML? 2 M
5. Mention some uses of servlet. 2 M
6. When a Servlet accepts a call from a client, it receives two objects. What are they? 2 M
7. Define JSP. Mention its use. 2 M
8. What is the purpose of using Cookies? How they are created? 2 M
9. What is the scope of variables in JavaScript? 2 M
10. What is an 'event' in JavaScript? 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Explain database connectivity in PHP with reference to MYSQL. 10M
- OR**
11. B). How to handle Sessions and Cookies in PHP? 10M
12. A). What are HTML Forms? Differentiate between GET and POST methods. Design a HTML form to read student details. 10M
- OR**
12. B). Explain in detail how XML data is parsed with an example. 10M
13. A). Illustrate and explain the Life Cycle of a Servlet. 10M
- OR**
13. B). Demonstrate the use of cookies in servlets with an example. 10M
14. A). How to access a database from a JSP? Explain in detail. 10M
- OR**
14. B). Explain how Sessions are handled in JSP. 10M
15. A). What is Java Script? What are the features of Java Script? 10M
- OR**
15. B). Explain the process of Form Validation in Java Script with an example. 10M

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Course Code: A30519



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: **COMPILER DESIGN**

(Computer Science & Engineering)

Date: 10.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

- | | | |
|-----|--|-----|
| 1. | What is the difference between interpreter and compiler? | 2 M |
| 2. | What are tokens, lexemes? | 2 M |
| 3. | Explain ambiguous grammar with example. | 2 M |
| 4. | Apply left factoring to the grammar $A \rightarrow aAB aA a$, $B \rightarrow bB b$ | 2 M |
| 5. | What are applications of SDT? | 2 M |
| 6. | Explain Type Checking. | 2 M |
| 7. | What is basic block? Give example? | 2 M |
| 8. | What is trace based collection? | 2 M |
| 9. | What is constant propagation? Give example? | 2 M |
| 10. | What is the difference between machine dependent and machine independent code optimizations? | 2 M |

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- | | | |
|-----------|---|-----|
| 11.A). | What are different phases of compiler? Explain in brief. | 10M |
| OR | | |
| 11.B). | Explain about input buffering techniques in detail. | 10M |
| 12.A). | Construct predictive parser for the following grammar:
$S \rightarrow (L) a$
$L \rightarrow L, S S$ | 10M |
| OR | | |
| 12.B). | Construct SLR parser for the following grammar:
$E \rightarrow E+T T$
$T \rightarrow T * F F$
$F \rightarrow (E) id$ | 10M |
| 13.A). | Explain about synthesized and inherited attributes with examples. | 10M |
| OR | | |
| 13.B). | Construct quadruples, triples and indirect triples for the expression:
$-(a*b) + (c+d) - (a+b+c+d)$ | 10M |

(P.T.O..)

14. A). Explain about following: i) stack allocation and ii) Heap allocation. 10M

OR

14. B). Describe the process of register allocation and assignment. 10M

15. A). Explain about data flow analysis with examples. 10M

OR

15. B). Explain about the following: 10M
i) Strength reduction, ii) Loop optimization and iii) Copy propagation.

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Course Code: A30521



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: SCRIPTING LANGUAGES

(Common for CSE & IT)

Date: 12.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What are the differences between nil and false in Ruby? 2 M
2. What are class libraries in Ruby? 2 M
3. Write about ALLOC_N routine. 2 M
4. Write the steps for creating extensions. 2 M
5. Give a note on Running and Debugging Perl. 2 M
6. What are the string operators available in Perl? 2 M
7. Define eval function and syntax in PERL. 2 M
8. What is the purpose of #!Directive in PERL? 2 M
9. List out all format flags in TCL. 2 M
10. Write about regular expression command in TCL. 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Explain in detail about SOAP based web services using Ruby. 10M
- OR**
11. B). Create a simple stop watch program to demonstrate a real-world use of Ruby Tk. 10M
12. A). Explain about embedded Ruby API. 10M
- OR**
12. B). Explain about Ruby Interpreter with its options. 10M
13. A). Explain various built-in operators and pattern matching modifiers in Perl. 10M
- OR**
13. B). Illustrate Control Structures with an example in Perl. 10M
14. A). What are the security Issues in Perl? 10M
- OR**
14. B). Give a brief account on Dirty Hands Internet Programming. 10M
15. A). Design a TCL application to find a file by name. 10M
- OR**
15. B). Describe in detail about TCL data structures. Discuss about event and binding in TK. 10M

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Course Code: A30558



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: DATA VISUALIZATION

(Computer Science & Engineering)

Date: 15.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What is a scatter plot? 2 M
2. What is data Visualization? 2 M
3. What are the challenges in visualizing dynamic data? 2 M
4. Differentiate between handling point data and line data in Geospatial Data. 2 M
5. What is a time series? 2 M
6. Why is visualization difficult in Multivariate Data? 2 M
7. What are graphs? 2 M
8. What is the use of Text Visualization? 2 M
9. What are the factors that influence an effective visualization? 2 M
10. List the toolkits available for visualization. 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Explain the process of visualization and the role of cognition in it 10M
- OR**
11. B). Describe the different visual variables and their use in semiotics. 10M
12. A). Describe the visualization methods for handling 3-dimensional spatial data and the challenges. 10M
- OR**
12. B). Explain methods to handle area data and point data visualization of geospatial data. 10M
13. A). Describe the different methods for visualizing Time-oriented data. 10M
- OR**
13. B). Discuss in detail about the various region-based visualization techniques for handling multivariate data. 10M
14. A). Describe the methods for visualizing arbitrary graphs and the major challenges. 10M
- OR**
14. B). Describe the vector space model for text visualization and its advantages. 10M
15. A). Explain problems in designing effective visualizations. 10M
- OR**
15. B). Explain the working and use of a Modern Integrated Visualization Systems. 10M

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Course Code: A30532



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: **SOFTWARE PROJECT MANAGEMENT**
(Common for CSE & IT)

Date: 15.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What is software project management? 2 M
2. List the phases of water fall model for a large-scale system. 2 M
3. What are the primary objectives of construction phase? 2 M
4. Describe the importance of software architecture. 2 M
5. Define progmatic planning. 2 M
6. Discuss about check points of the process. 2 M
7. Explain the role of project review authority (PRA). 2 M
8. Categorize the people involved in configuration control board. 2 M
9. Justify the statement "80% of the contribution comes from 20% of the contributors". 2 M
10. Explain modern software management process. 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). List the Boehm's top 10 industrial software metrics for the conventional software management performance. 10M

OR

11. B). Explain in detail about the three generations of software economics and how can we improve software economics. 10M

12. A). What are primary objectives, essential activities and evaluation criteria of inception phase? 10M

OR

12. B). What is an Artifact? Discuss about Engineering Artifacts. 10M

13. A). Explain the typical minor milestones in the lifecycle of iteration. 10M

OR

13. B). Illustrate the conventional "Work Breakdown Structure" and its issues in detail. 10M

14. A). With a neat diagram explain the project organization. 10M

OR

14. B). Justify the essentiality of round-trip engineering in project environments. 10M

15. A). Explain seven core metric and indicators in detail. 10M

OR

15. B). Describe the future software project management in detail. 10M

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Course Code: A30378



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular Examinations May-2023

Course Name: WASTE TO ENERGY

(Common for ECE, CSE & CSM)

Date: 19.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What is agro based waste? 2 M
2. Classification of waste as fuel. 2 M
3. What is meant by pyrolysis? 2 M
4. List any 4 applications of charcoal. 2 M
5. Classify gasifiers used for biomass gasification. 2 M
6. Define thermal heating. 2 M
7. List different types of biomass stoves. 2 M
8. Define biomass combustors. 2 M
9. List type of biogas plants 2 M
10. List any 4 applications of biogas plant. 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Write short notes on the following conversion devices with respect to waste management. 10M
i) Incinerator, ii) digestors
- OR**
11. B). Explain classification of waste in detail. 10M
12. A). Distinguish between slow and fast biomass pyrolysis. 10M
- OR**
12. B). Discuss various applications and yields of pyrolytic oils – in detail 10M
13. A). Draw Gasifier engine arrangement for production of Electric power and explain the methodology. 10M
- OR**
13. B). How gasifier output is utilized in Electrical Power Plants – Justify? 10M
14. A). Explain Design, Construction and Operation of Fixed bed combustor. 10M
- OR**
14. B). Explain the operation of Inclined Grate Combustors. 10M

(P.T.O..)

15. A). Explain the following in detail. 10M
i) Biomass gasification, ii) Pyrolysis & Liquefaction.

OR

15. B). Explain the following in detail with respect to biomass plants. 10M
i) Bio-Chemical Conversion, ii) Anaerobic digestion

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Course Code: C30166



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: **BUSINESS ETHICS & CORPORATE GOVERNANCE**

(Common for ECE & CSE)

Date: 19.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What is important of ethics? 2 M
2. What is morality? 2 M
3. Who is unethical manager? 2 M
4. What is whistle blowing? 2 M
5. What is hacking? 2 M
6. What is psychological egoism? 2 M
7. What is the purpose of a corporation? 2 M
8. What are responsibilities of a corporation as a moral person? 2 M
9. What is the role of executive and non-executive directors? 2 M
10. Define Corporate Governance. 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Explain the five myths about business ethics. 10M
- OR**
11. B). Explain Kohlberg Model of Moral Development. 10M
12. A). Explain ethics in Human Resource Management. 10M
- OR**
12. B). "Finance would be impossible without ethics" comment. 10M
13. A). Explain about the impact of Cybercrimes in Social Engineering? 10M
- OR**
13. B). What are IPR issues? Explain? and What is cost of Cybercrimes? 10M
14. A). Discuss the future of Corporate Governance in India. 10M
- OR**
14. B). Describe the role and responsibilities of a good Board. 10M
15. A). Discuss the recommendations of Irani Committee Report on Corporate Governance. 10M
- OR**
15. B). What is special about the OECD Principles and Methodology? Discuss. 10M

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Course Code: C30167



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: **MARKETING MANAGEMENT**

(Common for CSE, IT, CSC & CSM)

Date: 19.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What is marketing? 2 M
2. What are objectives of marketing? 2 M
3. Define brand. 2 M
4. Define market segmentation. 2 M
5. Importance of social media. 2 M
6. Define public relations. 2 M
7. Define marketing channels. 2 M
8. What is wholesale Marketing? 2 M
9. Importance of sales management. 2 M
10. What are the objectives of sales? 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Define market. Explain the functions of marketing Management. 10M
- OR**
11. B). Explain different stages of product life cycle (PLC). 10M
12. A). Describe the consumer behaviour and explain the models of consumer behaviour. 10M
- OR**
12. B). Define market segmentation. Explain the steps involved in market segmentation. 10M
13. A). What do you mean by sales promotion? State its major objectives. 10M
- OR**
13. B). Explain how online selling is different from offline selling. 10M
14. A). What are the four steps to require to designing marketing channels in their correct order? 10M
- OR**
14. B). Briefly state the factors to be considered in selecting channels. 10M
15. A). Explain the nature and importance of sales management. 10M
- OR**
15. B). Explain different types of sales organizations. 10M

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Course Code: A30166



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: ENVIRONMENTAL PROTECTION & MANAGEMENT

(Common for EEE, ECE, CSE & IT)

Date: 19.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

- | | |
|--|-----|
| 1. Define Pollution. | 2 M |
| 2. What do you mean by sustainability? | 2 M |
| 3. What is clean technology? | 2 M |
| 4. Define zero discharge technology. | 2 M |
| 5. Give the full form of EMAS and EMS. | 2 M |
| 6. Define hazardous waste. | 2 M |
| 7. Give any two roles of an environmental auditor. | 2 M |
| 8. What is compliance audit? | 2 M |
| 9. What do you mean by transboundary? | 2 M |
| 10. Name some metals present in tanning industry effluent. | 2 M |

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- | | |
|--|-----|
| 11.A). i) Discuss on the various national policy for environmental protection and Management. | 5M |
| ii) Enumerate the barriers for sustainable development. | 5M |
| OR | |
| 11. B). What is abatement of pollution. Discuss the major activities initiated under the various schemes on pollution abatement. | 10M |
| 12. A). Discuss cleaner production and cleaner technologies. | 10M |
| OR | |
| 12. B). i) Distinguish between pollution control and pollution prevention. | 5M |
| ii) concentration and mass standards. | 5M |
| 13. A). Discuss the merits and barriers in implementing ISO 14001 in an organization. | 10M |
| OR | |
| 13. B). i) Discuss the objectives and targets of an environmental management programme. | 5M |
| ii) Appraise the significance of training awareness on environmental protection. | 5M |
| 14. A). Write a process flow diagram for the Management of an Audit Programme as per ISO-19011. | 10M |
| OR | |
| 14. B). Write a note on Waste Minimisation Planning in an Industry. | 10M |
| 15. A). Write in brief about air and water pollution prevention opportunities in textile industries. | 10M |
| OR | |
| 15. B). Write in brief about disposal of hazardous wastes in a landfill. | 10M |

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Course Code: A30559



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular/Supplementary Examinations May-2023

Course Name: INTRODUCTION TO DATA SCIENCE

(Common for ECE, CSE & CSC)

Date: 19.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. Summarize the current traits of Big Data. 2 M
2. Explain the concept of Web Scripting. 2 M
3. Define the term Rescaling. 2 M
4. Distinguish between Cleaning and Munging. 2 M
5. Explain the importance of Support Vector Machine. 2 M
6. Illustrate the concept of Bayes Theorem. 2 M
7. Briefly elaborate the importance of Neural Networks. 2 M
8. Examine the Induction rule in brief. 2 M
9. Demonstrate the application of Data Science in Weather Forecasting. 2 M
10. Analyze implementation of Data Science in the Stock Market. 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). Compare and contrast the differences between Analysis and reporting with a suitable example? 10M
- OR**
11. B). Classify the important concepts of Matplotlib and NumPy in Python. 10M
12. A). Evaluate the importance of Dimensionality Reduction in Data Science. 10M
- OR**
12. B). Analyze the concept of Visualization of data? Also demonstrate the implications of Bar Charts, Line Charts and Scatterplots. 10M
13. A). Compare and contrast the differences between Supervised and Unsupervised Learning. 10M
- OR**
13. B). Distinguish between Naïve Bayes and K- nearest Neighbors Classifications with suitable example. 10M
14. A). Outline the concept of Decision trees and random forest. 10M
- OR**
14. B). Interpret the concept of Deep Learning for problem solving. 10M
15. A). Illustrate the applicability of Object Recognition in Data Science with suitable example. 10M
- OR**
15. B). Classify the importance of Real Time Sentiment Analysis. 10M

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Course Code: A30536



CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VI Semester Regular Examinations May-2023

Course Name: RESEARCH METHODOLOGIES

(Honors Programme in CSE)

Date: 17.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. What is literature review? 2 M
2. Name the different research approaches. 2 M
3. What are the steps involved in conducting a literature review? 2 M
4. What is plagiarism and why is it important to avoid in research? 2 M
5. How does the choice of sampling method impact the generalizability of research findings? 2 M
6. How would you classify different types of data? 2 M
7. What are some features of a good research design? 2 M
8. How do you test a research hypothesis using Z-Test? 2 M
9. How do you incorporate references and citations in a report? 2 M
10. How do you choose the appropriate data visualization technique for a report? 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). What are the different research approaches? Discuss each approach in detail, highlighting their advantages and disadvantages. 10M

OR

- 11.B). Develop a research objective related to a topic of your interest. Explain how you formulated your research objective and why it is important? 10M

- 12.A). What are some examples of ethical considerations in research, and why are they important? 10M

OR

- 12.B). How does problem formulation relate to the research process? Explain literature review process. 10M

- 13.A). You have conducted a survey of 200 people and you want to draw conclusions about the entire population. What sampling method would you use and why? 10M

OR

- 13.B). Explain the concept of data collection and give some examples of how data can be collected. 10M

(P.T.O.)

14. A). Differentiate between induction and deduction in research design? Explain 10M

OR

14. B). How would you formulate a research hypothesis based on a given research question, and what are some essential terms to consider? 10M

15. A). Explain in detail about Intellectual Property Rights. 10M

OR

15. B). What is open access and what are some of the benefits and drawbacks of open access publishing? 10M

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Course Code: A30535



CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VI Semester Regular Examinations May-2023

Course Name: MACHINE LEARNING

(Honors Programme in CSE)

Date: 19.05.2023 AN

Time: 3 hours

Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks.

10x2=20M

1. List down the important objectives of machine learning. 2 M
2. How to choose a function approximation algorithm? 2 M
3. What is Artificial Neural Network? 2 M
4. How to compute expected value and variance of a random variable? 2 M
5. "Under what conditions successful learning is possible" justify. 2 M
6. What is conditional independence? 2 M
7. Define case based reasoning. 2 M
8. What are the limitations of eager learning? 2 M
9. What are the limitations of explanation based learning? 2 M
10. What are the ways of parallelizing genetic algorithms? 2 M

PART-B

Answer the following. Each question carries TEN Marks.

5x10=50M

- 11.A). i) With an example, Explain the working of Find-S algorithm. 5M
ii) Discuss in brief about Inductive bias in decision tree learning. 5M
- OR**
11. B). With a neat diagram explain the steps involved in designing a model for machine learning. 10M
12. A). Discuss how a multi layer network learns using a gradient descent algorithm. 10M
- OR**
12. B). i) Define neural network learning. What are the problems in neural network learning? 5M
ii) Explain in brief about Back propagation algorithm. 5M
13. A). With the help of numerical example explain K nearest neighbor algorithm in detail. 10M
- OR**
13. B). i) Explain the features of Bayesian learning methods. 5M
ii) Discuss the relationship between the maximum likelihood hypothesis and the least-squared error hypothesis. 5M

(P.T.O..)

14. A). Explain sequential covering algorithm with an example. 10M

OR

14. B). i) Explain learning sets of first order rules using FOIL. 5M
ii) Explain in brief about Genetic algorithms. 5M

15. A). Explain about Explanation based learning. 10M

OR

15. B). Discuss in brief about different approaches to inductive analytical learning. 10M
