LOGANATHA NARAYANASAMY GOVT. COLLEGE (Autonomous), PONNERI – 601 204

NOVEMBER - 2020 SEMESTER EXAMINATIONS

I SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFE1D** Title of the Paper : **Elective - Resources Management Techniques**

DATE **: 02.01.2021 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. What is the Nature and Scope of operation?
2. What is meant by feasible solutions?
3. What is simplex method?
4. What is the dual simplex method?
5. What is meant by unbalanced assignment problem?
6. What is sequencing problem?
7. What do you mean by job sequencing?
8. What is the concept of game theory?
9. What does saddle point mean?.
10. What is minmax criterion in decision making?
11. What do you mean by PERT and CPM?
12. How is critical path method calculated?

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Solve the following linear programming problem using graphical method

    Maximize $Z=5X1 + 3X2$

    Subject to $3X1+5X2\leq15$

    $5X1+2X2\leq10$ and $X1, X2\geq0$

14. Solve the following problem using simplex method

    Maximize $Z=21X1 + 15X2$

    Subject to the constraints $-X1-X2\geq-6$

15. Write the dual linear programming problem for following primal

    Maximize $Z=150X1 + 100X2$

    Subject to $8X1+2X2\leq8$

    $4X1+9X2\leq10$ $Xj\geq0(j=1,2)$

16. Solve the following sequencing problem and determine the idle time for all machines

Jobs

Maximize	M1	10	12	8	15	16
	M2	3	2	4	1	5
	M3	5	6	4	7	3
	M4	14	7	12	8	6

17. Using the Minmax criterion find the optimal strategies for the players for the following game.

		B				
		B1	B2	B3	B4	B5
	A1	8	10	13	16	9
A	A2	7	12	6	15	10
	A3	9	18	9	13	25
	A4	4	9	8	20	6

18. Explain the maxmin principle with the following pay-off matrix for player A

	Player B		
Player A	20	12	15
	11	10	12
	15	11	10

19. Draw the critical path using network diagram and also find the total duration of the project given by

Activity	1-2	1-3	2-4	3-4	3-5	4-5	4-6	5-6
Duration in days	6	5	10	3	4	6	2	9

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Solve the following linear programming problem using big M method

Maximize $Z=-5X1 - X2$

Subject to $3X1+X2=3$

$4X1+3X2 \geq 6$

$X1+2X2 \leq 4$ and $X1, X2 \geq 0$

21. Solve the Assignment problem

	1	2	3	4
A	12	30	21	15
B	18	33	9	31
C	44	25	24	21
D	23	30	28	14

22. Four jobs 1,2,3 and 4 are to be processed on each of four machines A,B,C&D in order ABCD. The processing lines in minutes are given below. Fine the minimum elapsed time. If no passing of job is permitted.

Job	A	B	C	D
1	58	14	14	48
2	30	10	18	32
3	28	12	16	44
4	64	16	12	42

23. Two firms are competing for business. Whatever firm A gains firm B loses. The table shows advertising strategies of the firms and the utilities to firm A for various market shares in percentage.

	Firm B	Press	Radio	TV
Firm A	Press	60	45	40
	Radio	75	75	60
	TV	80	60	70

24. A project consists of the following activities and different time estimates.

Activity	Least time (days)	Greatest time (days)	Most likely time (days)
1-2	3	15	6
1-3	2	14	5
1-4	6	30	12
2-5	2	8	5
2-6	5	17	11
3-6	3	15	6
4-7	3	27	9
5-7	1	7	4
6-9	2	8	5

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

II SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFE2F** Title of the Paper : **Software Project Management**

DATE **: 30.12.2020 AN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. Why is SPM important?
2. Define contract management in SPM.
3. What is project evolution?
4. What is strategic programmes?
5. What is Activity planning?
6. What is the forward pass?
7. What is slip chart?
8. Distinguish between system requirement and software requirements.
9. What is organizational behavior?
10. Define Stress.
11. Define the term plans and methodologies.
12. What is play back period?

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. What are the Activities covered by SPM? Explain.
14. Explain about the benefit management in detail.
15. Write short notes on Sequencing and Scheduling activities.
16. What are the stages in contract placement? Explian.
17. Explain about Oldham-Hackman job characteristics model.
18. What are the problems with software projects? Explain.
19. Explain about cash flow forecasting.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Explain the overview of the project planning in detail.
21. Discuss about cost-benefit evolution techniques in detail.
22. Explain different types of risk management in detail.
23. Explain different types of contracts in detail.
24. What is organization structures? Explain in detail.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

II SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFE2H** Title of the Paper : **Elective - Multimedia Systems**

DATE **: 02.01.2021 AN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. What is Multimedia?
2. Define Multimedia skill.
3. Define Multimedia software.
4. List any two storage device need for multimedia.
5. Define Animation.
6. What id Flash?
7. Define Web server.
8. What is HTML?
9. What is costing in multimedia project?
10. Define Digital broadcasting.
11. List any two media software.
12. Define Data compression.

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. What are the requirements to make good multimedia? Discuss on it.
14. Discuss about Multimedia hardware.
15. Bring out the features of Photoshop.
16. Write short notes on CD-ROM technology.
17. Discuss about Web browsers and its features.
18. Discuss about Internet and its services.
19. Distinguish Macintosh and Windows platforms.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Explain the different stages of multimedia project.
21. Discuss the significances of various multimedia authoring tools.
22. Describe the concept of Digitization of multimedia audio and video objects.
23. Bring out the applications of Multimedia.
24. Discuss the following:

    a) Digital radio. b) Multimedia conferencing.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

III SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFE3L** Title of the Paper : **Elective - Distributed Operating System**

DATE **: 29.12.2020 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. What is distributed operating system?
2. Define the term "LAN".
3. Write a note on computer networks.
4. What do you mean by synchronization?
5. Distinguish between the encoding and decoding.
6. Define: "Deadlock".
7. What is a mutual exclusion?
8. Write any two advantages of heterogeneous DSM.
9. What are the desirable features of distributed file system?
10. What is file replication?
11. Define: "Security".
12. Write a note on authentication.

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Write down the evolution of distributed computing system.
14. Summarize the desirable features of message passing.
15. Elaborate the purpose of election algorithm.
16. Describe the design principles of atomic transactions.
17. What are the potential attacks to computer system? Explain.
18. Why are distributed computing systems gaining popularity?
19. Explain the structure of shared memory with diagram.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Discuss the complete architecture of ATM technology.
21. Illustrate the failure handling in message passing.
22. Draw and explain the general architecture of distributed shared memory.
23. Outline the importance of file accessing models.
24. Explain the main features of cryptographic.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

III SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFE3N** Title of the Paper : **Elective - Dot Net Technologies**

DATE **: 31.12.2020 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. Write down the features of VB.NET
2. What is Project Debugging?
3. What do you mean by class?
4. What is meant by constructor?
5. What is ADO.NET?
6. Write down the structure of ASP.NET
7. Mention the differences between Data List and Data Grid.
8. Define schema.
9. What is Proxy class?
10. What is Global.asax File?
11. Define Validation Summary Control.
12. List out the object oriented concepts.

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Discuss the steps involved in Finding and Fixing errors in detail.
14. Write short notes on Exception Handling.
15. Explain the steps involved in records manipulations using SQL Query in detail.
16. Explain Range Validator and Compare Validator in detail.
17. Explain how do you managing Application state.
18. Write down the usage of Data View.
19. With neat diagram, Explain .NET Frame work in detail.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. With suitable program, Explain the implementation of Polymorphism in detail.
21. What are the HTML controls? Explain in detail.
22. With suitable program, Explain Records manipulations using SQL stored procedure.
23. Discuss the various Web Server Controls.
24. Explain writing a simple Web Service and Data Set in detail.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

I SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFM1G** Title of the Paper : **Design and Analysis of Algorithms**

DATE **: 24.12.2020 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. Define algorithm.
2. What do you mean pseudocode?
3. What is feasible solution?
4. What do you mean performance measurement?
5. Define dynamic programming.
6. What is a multi stage graph?
7. What is back tracking?
8. Define graph colouring.
9. What are comparison trees?
10. Define Delphi oracle.
11. What is time complexing?
12. What do you mean state space method?

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Write the advantages and disadvantages of randomized algorithms.
14. Write short note on string editing.
15. Write an algorithm for greedy strategies for the snap sack problem.
16. Explain about a four mode graph and all possible colorings.
17. Write the basic concepts of NP-Hard and NP-Complete problems.
18. Write an algorithm for merge sort.
19. Explain about the travelling salesman problem.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Explain about Tower of Hanoi.
21. Discuss about job sequencing with deadlines with examples.
22. Explain about all pair shortest paths.
23. Explain about 8-queens problem.
24. Explain about disjoint sets problem.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

I SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFM1H** Title of the Paper : **Advanced Java Programming**

DATE **: 28.12.2020 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. Write down the overview of Servlet.
2. What do you mean by web server?
3. List out the any four features of java beans.
4. What do you mean by infobus in java beans?
5. How to declare a variable in Perl? Give example.
6. What is an EJB client?
7. What are the EJB entity beans?
8. Write a note on RMI.
9. How to register remote object in RMI?
10. What is an ORB protocol?
11. Define: "JSP".
12. List out the components of Java Mail.

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Summarize the session management in Servlets.
14. What are the bound properties of Java Beans? Explain.
15. Explain the functions of EJB session beans.
16. How to declare and implement remote interface in RMI? Describe.
17. What are the protocols used in Java Mail? Explain.
18. How the applet to Servlet communication works? Give example.
19. Describe the concept of java message services.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. How will you use JDBC in Servlets? Explain.
21. Elaborate the application builder tools in Java Beans.
22. Illustrate the various type of operator's available in Perl with example.
23. Discuss the methods of pushing data from RMI Servlets.
24. Explain the JSP scripting elements and directives.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

I SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFM1J** Title of the Paper : **Advanced Database Management Systems**

DATE **: 30.12.2020 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. Define DBMS.
2. Write the advantages of DBMS.
3. What is DDL?
4. What are error codes?
5. What is DML?
6. What are built-in functions?
7. What is serializability?
8. Write the concept of transaction.
9. What is atomicity?
10. Define data mining.
11. What is spooling?
12. What are check points?

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Explain the components of DBMS.
14. Explain about data type.
15. Write note on data management and retrieval.
16. Explain about concurrency control.
17. Write short note on storage structure.
18. Write the purpose of database systems.
19. What is meant by Recoverability? Explain.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Explain about third normal form.
21. Explain about client/server database.
22. Discuss about table type in detail.
23. Explain about dead lock handling.
24. Discuss about parallel and distributed data based in details.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

II SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFM2E** Title of the Paper : **TCP / IP Design and Implementation**

DATE **: 24.12.2020 AN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. What is AARP?
2. Define ICMP.
3. What is termination?
4. What is a timeout?
5. What is an Algorithm?
6. List out the routing table.
7. Give the example Segment format.
8. What is Mutual exclusion?
9. What is messages?
10. What is flow control?
11. Define Pushfunction.
12. What is CIDR?

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Explain about the classful internet address.
14. Discuss the Futures and performance with example.
15. Describe the Multicast processing in detail.
16. Write a short output processing with example.
17. Discuss about the deleting timerevent.
18. Mention the fragmentation and reassembly.
19. What is a Urgent data processing? Explain it.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Discuss about the Sub netting and super netting.
21. Give the importance of connection establishment and termination.
22. Discuss about the IP Implementation in detail.
23. Describe the Data structure and input processing.
24. Explain about the Flow control and adaptive retransmission.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

II SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFM2F** Title of the Paper : **Data Warehousing & Data Mining**

DATE **: 28.12.2020 AN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. What is OLAP?
2. Define Data warehousing.
3. Expand KDD.
4. What is Data Dizcritization?
5. What is Data mining?
6. Define prediction.
7. What do you understand by Lazy learners?
8. Define Classification.
9. What is Clustering?
10. Define Cluster analysis.
11. What is Noisy data?
12. Write the need of Association rule mining.

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Explain the Multi dimensional data model with example.
14. Distinguish between operational database system and data warehouse.
15. Bring out the need for Data Preprocessing.
16. Write short notes on association mining.
17. Explain the Rule based classification with example.
18. Discuss about Super vector machine.
19. Briefly discuss about the Grid based method.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Describe the functions of Data Warehousing architecture.
21. Describe in detail about Data Integration and transformation.
22. Explain the Constraint based association mining with example.
23. Explain Bayesian classification in detail.
24. Discuss the concept of Density based methods.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

III SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFM3E** Title of the Paper : **Principles of Compiler Design**

DATE **: 23.12.2020 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. How will you analysis of the source program?
2. What are the compiler construction tools?
3. Define: "DFA".
4. Write down the role of the parser.
5. What is the use of LALR parser?
6. What do you mean by content free grammars?
7. Write a note on procedure calls.
8. Define: "Source Language".
9. What is a target machine?
10. Write the uses of code generator.
11. What are the loops inflow graphs?
12. What do you mean by peephole optimization?

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Write down the role of lexical analyzer.
14. Summarize the purpose of recursive descent parsing.
15. Elaborate the concept of symbol tables.
16. Describe the code generation using DAG.
17. What is the principle source of optimization? Explain.
18. Explain the regular expression and finite automata.
19. Describe the uses of intermediate languages.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Illustrate the different phases of compiler.
21. Compare the shift reduce parsing and operator precedent parsing.
22. What are the strategies of storage allocation? Explain.
23. Discuss the basic blocks and flow graphs in code generator.
24. Explain the need of optimization of basic blocks.

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NOVEMBER - 2020 SEMESTER EXAMINATIONS

III SEMESTER – M.Sc., COMPUTER SCIENCE

Paper Code : **17PFM3F** Title of the Paper : **Information Security**

DATE **: 26.12.2020 FN** Time : **3 Hours** Maximum Marks : **75 Marks**

PART – A (10 X 2 = 20 Marks)

Answer any **TEN** Questions from the following

1. What is Information security?
2. What is Threat?
3. Define Operating System security.
4. What is the purpose of Authentication?
5. Define Reliability.
6. What is sensitive data?
7. What is Cryptography?
8. Expand PEM.
9. What is Physical security?
10. Write any two legal issues in Computer security.
11. Define Passive Attack.
12. What do you understand by Biometric?

PART – B (5 X 5 = 25 Marks)

Answer any **FIVE** Questions from the following

13. Discuss on Computer criminals.
14. Write short notes on Memory address protection.
15. What are the security requirements? Discuss.
16. Explain the function of SSL protocol.
17. Discuss about the Ethical Issues in Computer society.
18. Explain about different types of Attacks.
19. Write short notes on Risk Analysis.

PART – C (3 X 10 = 30 Marks)

Answer any **THREE** Questions from the following

20. Discuss the nature and impacts of Virus and Malicious codes.
21. Describe the concept of Authentication.
22. Illustrate on Multilevel Database.
23. Discuss about Intrusion Detection system.
24. Explain the concept of Security planning.

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