Hall Ticket Number :										

R-17

Code: 7P2B31

M.C.A. III Semester Regular & Supplementary Examinations Nov/Dec 2019

Database Management Systems

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Explain Data anomalies. 6M

   b) Describe E-R Diagram Design Issues? 6M

OR

2. a) Explain the advantages of DBMS over file processing system. 7M

   b) What are the different components of DBMS? 5M

UNIT–II

3. a) Illustrate different operations in Relational algebra with an example? 8M

   b) Explain about tuple relational calculus? 4M

OR

4. a) Define trigger and explain its three parts? Differentiate row level and statement level triggers? 7M

   b) What is the use of groupby and having clauses? 5M

UNIT–III

5. a) Discuss the basic form of SQL query? 6M

   b) Illustrate functional dependency with example? 6M

OR

6. a) What is Normalization? Explain its advantages. 6M

   b) Define Second Normal Form? 6M

UNIT–IV

7. a) Define a Transaction? List the properties of transaction. 6M

   b) Explain about ARIES. 6M

OR

8. a) Explain ACID properties and illustrate them through examples. 7M

   b) Discuss Serializability in detail? 5M

UNIT–V

9. a) Explain Hash based Indexing. 5M

   b) Illustrate insertion of an element in B+ Tree with example? 7M

OR

10. a) Explain extendible hashing. 6M

    b) Compare different file organizations? 6M

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Hall Ticket Number :										

R-17

Code: 7P2B33

M.C.A. III Semester Regular & Supplementary Examinations Nov/Dec 2019

Management Information Systems

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Explain the Systems View of Business. 6M
   b) Explain how the MIS helpful for increased complexity of management. 6M

OR

2. a) What is MIS? 4M
   b) Write in detail about Decision Support Systems 8M

UNIT–II

3. a) How are information systems transforming business and what is their relationship to globalization? 6M
   b) What exactly is an information system? How does it work? What are its management, organization and technology components? 6M

OR

4. a) Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations? 6M
   b) What are challenges posed by strategic information systems and how should they be addressed? 6M

UNIT–III

5. a) Distinguished between programmed and nonprogrammed decisions. 6M
   b) Briefly explain about evolution of an information system. 6M

OR

6. Explain about establish system constraints phase of conceptual system design. 12M

UNIT–IV

7. a) Explain about the Project Management of MIS Detailed Design. 6M
   b) Explain about the conceptual system design for a business system. 6M

OR

8. a) Explain the procedure for a simulation test of the whole system. 6M
   b) How to Document the Detailed Design. Explain. 6M

UNIT–V

9. a) Explain about the computer related acquisitions for MIS implementation. 6M
   b) What are the procedures should be develop for MIS implementation? Discuss. 6M

OR

10. a) How to document a manual MIS and computer-based MIS. Explain. 6M
    b) Briefly explain about environmental change and the internal problems related to MIS maintenance. 6M

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Hall Ticket Number :										

R-17

Code: 7P2B36

M.C.A. III Semester Regular & Supplementary Examinations Nov/Dec 2019

Operating Systems

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Describe various system calls in detail with neat diagram. 6M

   b) Explain about parallel and real-time systems? 6M

OR

2. Describe the evolution of operating system with technologies associated with each generation. 12M

UNIT–II

3. What are the essential properties of a data item should possess to implement a critical section to the dining philosopher problem with no race condition. 12M

OR

4. Explain the difference in the degree to which the following algorithm discriminate in favour of short processes.

   (i) Multilevel feedback queue

   (ii) RR 12M

UNIT–III

5. Consider the following data using data structures in the Banker's algorithm, with resources A, B, C and D, and processes P0 to P4.

	Max				Allocation				Need				Available			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
P0	6	0	1	2	4	0	0	1								
P1	1	7	5	0	1	1	0	0								
P2	2	3	5	6	1	2	5	4								
P3	1	6	5	3	0	6	3	3								
P4	1	6	5	6	0	2	1	2								
													3	2	1	1

Using Banker's algorithm, answer the following questions:

   a) Is the system is in a safe state? Why? 3M

   b) How many resources of type A, B, C and D are there? 3M

   c) If a request from process p4 arrives for additional resource of (1, 2, 0, 0) can the banker's algorithm grant the request immediately? Show the new system state and other criteria. 6M

OR

6. Explain in detail about deadlock detection and recovery schemes. 12M

UNIT–IV

7. Discuss the situation under which the most frequently used replacement algorithm generates fewer page faults than the least recently used page replacement algorithm. 12M

OR

8. What are the different disk space allocation methods available? Explain any two in detail. 12M

UNIT–V

9. Explain security threats and its countermeasures in detail. 12M

OR

10. Discuss how help in establishing a stronger security framework for an organization firewalls. 12M

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Hall Ticket Number :										

R-17

Code: 7P2B32

M.C.A. III Semester Regular & Supplementary Examinations Nov/Dec 2019

PHP With MySQL

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. Explain about LAMP web development platform 12M

OR

2. a) Create a sample static web page 6M
   b) Create a sample dynamic web page 6M

UNIT–II

3. a) Discuss the procedure for finding and fixing bugs in a program with example 10M
   b) List out the data types supported by PHP 2M

OR

4. Discuss control structures in PHP with a sample program 6M
   Discuss decision making in PHP with a sample program 6M

UNIT–III

5. a) Discuss the procedure for creating a table through php code and explain it with an suitable example 9M
   b) Differentiate between private, foreign and unique keys 3M

OR

6. Explain how to get results from more than one table using joins with an example 12M

UNIT–IV

7. Explain php.ini and my.ini 12M

OR

8. a) Explain the concept of httpd.conf 6M
   b) How to handle and log PHP errors. 6M

UNIT–V

9. a) Discuss about and single multiple article templates 8M
   b) Discuss about dynamic templating 4M

OR

10. a) Create a form for your company employee entering detials for each employee in the company. Validate the form using PHP validates and display error messages 8M
    b) Discuss the security considerations to be kept in ind while developing a website 4M

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Hall Ticket Number :										

R-17

Code: 7P2B34

M.C.A. III Semester Regular & Supplementary Examinations Nov/Dec 2019

Web Component Development with J2EE

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Justify the suitability of J2EE Multi-tier Architecture for real world problems. 6M

   b) Classify the JDBC packages and its Process for appropriate JDBC driver with an example. 6M

OR

2. a) Construct the database connectivity for an association of front and back end with the JDBC / ODBC bridge interruption with suitable example. 6M

   b) Create tables for point of sales application and compile the insert and selection process in it. 6M

UNIT–II

3. a) Compare Updating and Deleting a Data from a Table with an example. 6M

   b) Examine the following: Joining Tables, Grouping and Ordering Data in tables 6M

OR

4. a) Discuss about the Servlets Life Cycle in detail. 6M

   b) Compare HTTP GET and HTTP POST Request with an example. 6M

UNIT–III

5. a) Justify the need for Cookies and Session Tracking in Servlet. 6M

   b) Illustrate Servlet Config, Request Dispatcher and Send Redirect function in servlet. 6M

OR

6. a) Briefly describe Single Thread Model. 6M

   b) Examine the Multi-tier applications using database connectivity with appropriate example. 6M

UNIT–IV

7. a) Discuss about JSP Page Directives and JSTL. 6M

   b) Elaborate JSP Standard Action and Custom Tags with example. 6M

OR

8. a) Illustrate the advantages of JSP. 6M

   b) Discuss the JSP Scripting Elements, Declaratives and Expressions. 6M

UNIT–V

9. a) Justify the advantages of Java Beans in detail. 6M

   b) Compare JSP with Java Beans 6M

OR

10. a) Categorize the Java Beans Event Descriptor and Method Descriptor with suitable example. 6M

    b) Construct an API by using Introspector and property Descriptor of Java Beans 6M

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Hall Ticket Number :										

R-17

Code: 7P2B35

M.C.A. III Semester Regular & Supplementary Examinations November 2019

Design & Analysis of Algorithms

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) What do you mean by time complexity? Explain about different asymptotic notations with suitable examples. 6M

   b) Write an algorithm for linear search and analyze the time complexity of that algorithm 6M

OR

2. a) Define recurrence relation. Discuss about various ways of solving of the recurrence relation. 6M

   b) Explain the fundamentals of algorithmic Problem Solving? 6M

UNIT–II

3. Explain the merge sort algorithm with suitable example. Discuss the time complexity of merge sort algorithm. 12M

OR

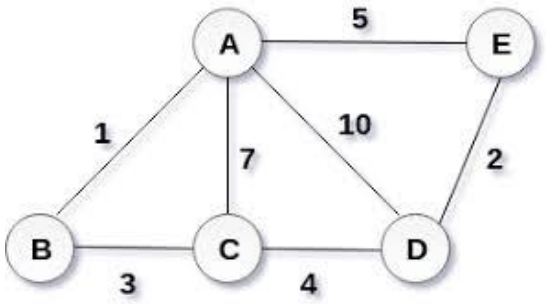
4. Explain Quick Sort algorithm with a suitable example. Find the time complexity of Quick Sort algorithm. 12M

UNIT–III

5. Write an algorithm for finding optimal binary search tree using dynamic programming. Discuss the time complexity of this algorithm. 12M

OR

6. Write Prim's algorithm for finding minimum spanning tree. Find the minimum cost spanning tree for the graph given below



12M

UNIT–IV

7. a) Explain the general method algorithm for backtracking technique. 6M

   b) Write an algorithm for 8-queen problem using backtracking technique. 6M

OR

8. Explain about the FIFO and LC branch and bound general method. 12M

UNIT–V

9. Write short notes on connected components and bi-connected components. 12M

OR

10. Explain about NP hard and NP complete problems with suitable examples. 12M

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