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M. C. A. (COMMERCE) CBCS (Part -I) (Semester - II)

Examination, April - 2024

DATA STRUCTURE (DT)

Sub. Code : 81160

Day and Date : Friday, 10/05/2024

Total Marks : 70

Time : 2.30 p.m. to 5.30 p.m.

Instructions : 1) Q. 1 and Q. 7 are compulsory.

2) Attempt any three questions from Q. 2 to Q. 6.

3) Figures to the right indicates full marks.

Q.1 Multiple Choice Question

[8]

- 1) Which of the following is a linear data structure?
 - a) Array
 - b) AVL Trees
 - c) Binary Trees
 - d) Graph
- 2) When a pop () operation is called on an empty stack, what is the condition called?
 - a) Overflow
 - b) Underflow
 - c) Garbage value
 - d) Syntax Error
- 3) Which of the following data structures is used in recursion?
 - a) Stack
 - b) Queue
 - c) Linked list
 - d) All of these
- 4) A data structure in which elements can be inserted or deleted at/from both ends but not in the middle is
 - a) Queue
 - b) Circular queue
 - c) Dequeue
 - d) Priority queue
- 5) In linked list each node contains a minimum of two fields. One field is data field to store the data and second field is
 - a) Pointer to character
 - b) Pointer to integer
 - c) Pointer to node
 - d) Node

- 6) Suppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into an empty binary search tree, what is the in-order traversal sequence of the resultant tree?
- a) 7 5 1 0 3 2 4 6 8 9 b) 0 2 4 3 1 6 5 9 8 7
- c) 0 1 2 3 4 5 6 7 8 9 d) 9 8 6 4 2 3 0 1 5 7
- 7) A parenthesis checker program would be best implemented using.....
- a) List b) Queue
- c) Stack d) Any of the above
- 8) Disk allow random access to any file block in
- a) Direct Access Methods b) Sequential Access Methods
- c) Logical Access Methods d) Indexed-sequential Access Methods

- Q. 2** Define Data structure and explain the implementation or rational number as a data structure. [14]
- Q. 3** a) Define stack. Describe different operations on Stack with an example. [07]
 b) What is priority queue? Explain priority queue in detail. [07]
- Q. 4** a) List and explain different applications of lined list. [07]
 b) Illustrate the representation of binary tree in detail. [07]
- Q. 5** What is linked list? Identify the different types of linked list with the suitable example. [14]
- Q. 6** a) Explain different collision resolution techniques used in hashing. [07]
 b) Describe the concept of Multi-Key file organization and access methods. [07]
- Q. 7 Write short Notes on. (Any Four)** [20]
- a) Linear data structure
- b) Applications of Stacks
- c) Threaded binary tree
- d) Hash Table
- e) Sequential access file organization

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M.C.A. (Commerce) (CBCS) (Semester - II)

Examination, April - 2024

Big Data Management (BDM)

Sub. Code : 81161

Day and Date : Saturday, 11/05/2024

Total Marks : 70

Time : 2.30 p.m. to 5.30 p.m.

- Instructions :
- 1) Q. 1 and Q. 7 are compulsory.
 - 2) Attempt any three questions from Q. 2 to Q. 6.
 - 3) Figures to the right indicate full marks.

Q. 1 Multiple Choice Questions.

[8]

- 1) Data in bytes size is called big data.
 - a) Mega
 - b) Giga
 - c) Tera
 - d) Peta
- 2) In Big Data environments, Velocity refers
 - a) Data can arrive at fast speed
 - b) Enormous datasets can accumulate within very short periods of time
 - c) Velocity of data translates into the amount of time it takes for the data to be processed
 - d) All of these
- 3) can best be described as a programming model used to develop Hadoopbased applications that can process massive amounts of data.
 - a) MapReduce
 - b) Mahout
 - c) Oozie
 - d) All of these
- 4) HBase is defines only column families.
 - a) Row Oriented
 - b) Schema-less
 - c) Fixed Schema
 - d) All of these

Q.7 Write Short Notes on. (Any Four)

[20]

- a) Features of Hadoop.
 - b) Examples of Map-Reduce
 - c) Data types in Hive
 - d) Applications of HBase
 - e) NoSQL Database Administration
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MCA (COMM) (Part - I) (Semester - II) (CBCS)

Examination, April - 2024

DATA COMMUNICATION AND NETWORK (DCN)

Sub. Code : 81162

Day and Date : Monday, 13-05-2024

Total Marks : 70

Time : 02.30 p.m. to 05.30 p.m.

Instructions : 1) Q. 1 and Q. 7 are compulsory.

2) Attempt any three questions from Q.2 to Q. 6.

3) Figures to the right indicate full marks.

Q.1) Choose the correct alternative and rewrite the sentence.

8

- i) Two devices are in network if
- a) A process in one device is able to exchange information with a process in another device.
 - b) A process is running on both devices
 - c) PIDs of the processes running of different devices are same.
 - d) A process is active and another is inactive.
- ii) Communication channel is shared by all the machines on the network in
- a) broadcast network
 - b) unicast network
 - c) multicast network
 - d) any cast network
- iii) Network congestion occurs
- a) in case of traffic overloading
 - b) when a system terminates
 - c) when connection between two nodes terminates
 - d) in case of transfer failure
- iv) The number of layers in ISO OSI reference model is
- a) 5
 - b) 7
 - c) 6
 - d) 10

- v) What is used to identify whether a data word has an odd or even number of 1s?
- a) Carry bit
 - b) Zero bit
 - c) Parity bit
 - d) Sign bit
- vi) In topology, network components are connected by only one cable.
- a) Star
 - b) Ring
 - c) Bus
 - d) Mesh
- vii) The layer is the layer closest to transmission medium
- a) Data link
 - b) Transport
 - c) Network
 - d) Physical
- viii) Which sublayer of the data link layer performs data link functions that depend upon the type of medium?
- a) Logical link control sublayer
 - b) Media access control sublayer
 - c) Network interface control sublayer
 - d) Error control sublayer

- Q.2) Explain the components of Data communication.** 14
- Q.3) What are the various types of communication media?** 14
- Q.4) Discuss TCP/IP Model in detail.** 14
- Q.5) Explain different types of primitives in transport layer.** 14
- Q.6) Explain flooding and distance vector algorithm.** 14
- Q.7) Write notes on : (Any four)** 20
- i) Cryptography
 - ii) Virus and Malware
 - iii) IP Protocol and addressing
 - iv) LAN and WAN
 - v) HTTP and SMTP

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MCA (Commerce and Management) (Part - I) (Semester - II)

Examination, April - 2024

**SOFTWARE ENGINEERING AND PROJECT
MANAGEMENT (Paper - CC205)**

Sub. Code : 81163

Day and Date : Tuesday, 14-05-2024

Total Marks : 70

Time : 02.30 p.m. to 05.30 p.m.

Instructions : 1) Q. 1 and Q. 7 are compulsory.

2) Attempt any three questions from Q.2 to Q. 6.

3) Figures to the right indicate full marks.

Q.1) Choose the correct alternative and rewrite the sentence.

8

- i) What are the four framework activities found in the extreme programming process model?
- Analysis, Design, coding, testing
 - Planning, analysis, design, coding
 - Planning, analysis, coding, testing
 - Planning, design, coding, testing
- ii) The incremental model of software development is
- a reasonable approach when requirements are well define.
 - a good approach when a working core product is required quickly.
 - the best approach to use for projects with large development teams.
 - a revolutionary model that is not used for commercial products.
- iii) What is the correct order in which a software project manager estimates various project parameters while using COCOMO?
- Cost, effort, duration, size
 - Effort, size, duration, cost
 - Size, effort, duration, cost
 - Size, cost, effort, duration

- iv) Which one of the following is a functional requirement?
 a) Maintainability b) Portability
 c) Business needs d) Reliability
- v) What technique can you use to resolve resource conflicts by delaying tasks?
 a) Resource loading b) Resource leveling
 c) Critical path analysis d) Over allocation
- vi) refer(s) total the work involved in creating the products of the project and the processes used to create them.
 a) Deliverables b) Milestones
 c) Scope d) Product development
- vii) Software risk always involves two characteristics that are
 a) fire fighting and crisis management
 b) known and unknown risks
 c) uncertainty and loss
 d) staffing and budget
- viii) Which of the following is NOT a maturity level in CMM?
 a) Desing b) Repeatable
 c) Managed d) Optimizing

- Q.2)** Explain how both waterfall model and prototyping model can be accommodated in the spiral process model. 14
- Q.3) a)** Explain feasibility study. What are the outcomes? Does it have either implicit or explicit effects on software requirement collection? 7
- b)** What minimum features are required to be present in a good SRS? 7
- Q.4) a)** Explain some important activities that a software project manager performs during software project planning. 7
- b)** Discuss different types of team structure adopted in an organization. 7
- Q.5) a)** Explain different tools and techniques used in software quality control. 7
- b)** What is risk management? Explain briefly the technical risk in a software project. 7

- Q.6) a) Explain COCOMO model for project estimation. 7
- b) What is requirement engineering? Discuss functional and non-functional software requirements. 7

Q.7) Write short notes on : (Any four) 20

- a) Extreme programming
- b) Stakeholders of software project
- c) Formal technical reviews
- d) Types of outsourcing
- e) Software reliability metrics
- f) ISO 9001



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MCA (Part - I) (Semester - II)

Examination, April - 2024

DITITAL MARKETING

Sub. Code : 81164

Day and Date : Wednesday, 15-05-2024

Total Marks : 70

Time : 02.30 p.m. to 05.30 p.m.

Instructions : 1) Q. 1 and Q. 7 are compulsory.

2) Attempt any three questions from Q.2 to Q. 6.

3) Figures to the right indicate full marks.

Q.1) Choose the correct alternative and rewrite the sentence.

8

- i) Creative marketing can be defined as
- A marketing department entailing several employees.
 - The brand value of an organization.
 - A set of schemes undertaken by the organization for distributing the marketing material.
 - The marketing content and its inventive aspect.
- ii) What is the need to analyze digital analytics?
- For making better decisions related to the business.
 - For generating higher revenue from the website.
 - To define genuine customers for your business.
 - For appealing more users to drive more traffic.
- iii) The hyperlink refers to a
- Inbound link
 - Outbound link
 - IFTTT link
 - KPI link

- iv) The main advantage of online advertisement is
- a) low cost promotional strategy
 - b) online advertising is promotional as well as informational
 - c) trackable
 - d) all of these
- v) CMS stands for
- a) Content Management System b) Creator Management System
 - c) Content Manager Source d) None of these
- vi) In mobile marketing the full form of LBS is
- a) List Based Service b) Lead Based Service
 - c) None of these d) Location based Service
- vii) Which kind of following Googl analytics track?
- a) Pageview b) Event
 - c) Transaction d) All of these
- viii) Which of the following is displayed using the Word Press News Widget?
- a) Software version b) Software updates
 - c) Alerts d) All of these
- Q.2) a)** Explain the digital marketing strategies for websites. 7
- b) Which digital platforms are available today through which we can market digitally? 7
- Q.3) a)** What is WordPress? Explain its features. 7
- b) Discuss the use of HTML, CSS and Javascript in digital marketing. 7
- Q.4) a)** What is SEO? Explain On-Page and Off-Page SEO strategies. 7
- b) What is SEM? Explain the PPC campaign setup. 7

- Q.5) a) Explain mobile app and video marketing strategies. 7
- b) Differentiate between the page and post of the WordPress site. 7

- Q.6) a) Explain various tools available through which we can do website analytics. 7
- b) Explain Audience and Customer Acquisition Report. 7

- Q.7) Write short notes on : (Any four) 20
- a) Google Tague Manager
- b) Rich snippets integration
- c) WordPress dashboard
- d) Semantic SEO
- e) White hat and black hat SEO techniques

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March-April 2024 Examination

MCA Commerce (CBCS)

Desion Thinking and Innovation

Subject Code: 81165

Day and Date : Wednesday, 15-05-2024

Total Marks : 70

Time : 02:30 pm to 05:00 pm

Instructions :

1. Q.1 and Q.7 are compulsory.
 2. Attempt any three (3) questions from Q.2 to Q.6
 3. Figures to right indicate full marks.
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Q.1 Multiple choice questions.

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- I. What is Design Thinking?
 - a) Thinking about Design
 - b) Designing ways in which people think
 - c) Asking users to solve problems
 - d) Defining, framing, and solving problems from users perspectives
- II. The meaning of empathize is to.....
 - a) Observe
 - b) Engage
 - c) Listen
 - d) All of the above

- III. After you define the problem, the next step is to
- a) Test
 - b) Prototype
 - c) Ideate
 - d) Emperthise
- IV. After Prosotyle the next step is to
- a) Test
 - b) Deline
 - c) Ideate
 - d) Empathise
- V. Prototype is a simple experimental model of a proposed solution used to
- a) Test ideas
 - b) Validate ideas
 - c) Both of the above
 - d) None of the above
- VI. Design Thinking typically helps in
- a) Innovation
 - b) Data Analysis
 - c) Marketing Management
 - d) Operation Management
- VII.storytelling is the most corepelling type of story
- a) Aural
 - b) Visual
 - c) Textual
 - d) All of the above
- VIII. The ultimate goal of design thinking is to help you design better.....
- a) Services
 - b) Products
 - c) Experiences
 - d) All of the above

- Q.2 Explain the Design thinking process in details with suitable example? 14
- Q.3 a) What is research? Identify the importance of research in design thinking process 07
- b) How to develop conceptual model of designing? 07
- Q.4 Illustrate different prototyping strategies in detail 14
- Q.5 a) Identify the role of design thinking in Innovations. 07
- b) What are the different mechanisms to develop a prototype? 07
- Q.6 Explain different techniques of Innovation in detail. 14
- Q.7 Short Notes (Any Four) 20
- a) Design perspective
 - b) Storyboards
 - c) Wireframes
 - d) History of Design Thinking
 - e) Impact of Innovation

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