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

Examination, January-2025

Paper CC201 : Web Technology

Sub. Code : 81159

Day and Date : Monday, 20/01/2025

Total Marks : 70

Time : 2:30 p.m. to 05:30 p.m.

- Instructions :**
- 1) Figures to the right indicate full Marks.
 - 2) Questions No. 1 and Question No. 7 are compulsory.
 - 3) Solve any three questions from questions from Q. No.2 to Q. No.6.

Q1) Multiple Choice Questions.

[8]

- 1) Which one of the following is the right way to invoke a method?

A) \$object->methodName();	B) object->methodName();
C) object::methodName();	D) \$object::methodName();
- 2) Which PHP recognize constructors by the name?

A) classname()	B) _construct ()
C) function_construct()	D) function__construct()
- 3) Which of the following method sends input to a script via a URL?

A) Get	B) Post
C) Both	D) None of these
- 4) Besides , another way to make text bold is what ?

A) <fat>	B)
C) <dark>	D) <emp>

- 5) The tag has two required attributes, _____.
A) a and src
B) href and a
C) src and alt
D) href and alt
- 6) In CSS, A:link defines the style for?
A) Active links
B) Visited links
C) Virtual links
D) Normal Unvisited links.
- 7) Which of the following is NOT a valid CSS selector?
A) ID selectors
B) TAG selectors
C) Title selectors
D) HEAD selectors
- 8) Each row is divided into data cells with the _____ tag.
A) <table>
B) <tr>
C) <td>
D) <th>

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|-----|----|---|-----|
| Q2) | A) | What is HTML? Write and explain the structure of HTML Program. | [7] |
| | B) | Define List. Describe different types of lists with examples. | [7] |
| Q3) | A) | Explain different types of cascading style styles with suitable examples. | [7] |
| | B) | What is Text Formatting in CSS? Explain with an example. | [7] |
| Q4) | A) | List and explain the control structures with suitable example used in PHP. | [7] |
| | B) | What are the types of arrays supported by PHP? Explain with an example. | [7] |
| Q5) | A) | Explain the process of connecting database with PHP application. | [7] |
| | B) | List and explain the string functions in PHP. | [7] |
| Q6) | A) | Explain <form> tag along with their attributes. | [7] |
| | B) | Explain about Function definition, Function calling, Function Parameter, return type with a suitable example in JavaScript. | [7] |

Q7) Write short notes on. (Any four)

[20]

- A) DIV and SPAN tags in HTML
- B) BOX Model
- C) Differentiate GET and POST methods
- D) Data types supported by PHP
- E) File uploading in PHP
- F) Media tags.

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MCA (Commerce) (Part - I) (Semester - II) (CBCS)

Examination, January-2025

DATA STRUCTURE

Sub. Code : 81160

Day and Date : Tuesday, 21/01/2025

Total Marks : 70

Time : 02:30 a.m. to 05:30 p.m.

- 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.

Q1) Multiple Choices Questions.

[8]

- 1) Which of the following is non-linear data structure?

A) Stacks	B) List
C) Strings	D) Tress
- 2) Pushing an element into stack already having five elements and stack size of 5, then stack becomes _____.

A) Overflow	B) Crash
C) Underflow	D) User flow
- 3) The Postfix form of $A*B+C/D$ is _____.

A) $*AB/CD+$	B) $AB*CD/+$
C) $A*BC+/D$	D) $ABCD+/*$
- 4) Which of the following is not an advantage of a priority queue?

A) Easy to implement
B) Processess with different priority can be efficiently handled
C) Applications with differing requirements
D) Easy to delete elements in any case

- 5) Linked list is considered as an example of _____ type of memory allocation.
 - A) Dynamic
 - B) Static
 - C) Compile time
 - D) Heap
- 6) What is the need of a binary tree which is height balanced?
 - A) to avoid formation of skew trees
 - B) to save memory
 - C) to attain faster memory access
 - D) to simplify storing
- 7) Which of the following data structure is required to convert arithmetic expression in infix to its equivalent postfix notation?
 - A) Queue
 - B) Linked List
 - C) Binary Search tree
 - D) None of these
- 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

Q2) Define Data Structure. How to implement string as a data structure? [14]

Q3) A) Define Queue. Describe different operations on Queue. [7]

B) Illustrate the process expression evaluation using stack. [7]

Q4) A) Describe the process of implementing stack as on linked list. [7]

B) List and explain different applications of linked list. [7]

Q5) Identify different techniques of binary tree traversal with suitable example. [14]

Q6) A) Explain the concept of hashing function with suitable example. [7]

B) Describe the concept of Multi-Key file organization and access methods. [7]

Q7) Write short notes on. (Any four)

[20]

- A) Non-linear data structure
- B) Applications of Queue
- C) AVL-Trees
- D) Hash Table
- E) Direct access file organization

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MCA (Commerce) (Semester -II) CBCS
Examination, January-2025
Big Data Management
Sub. Code : 81161

Day and Date : Wednesday, 22/01/2025

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 (3) questions from Q.2 to Q.6
 - 3) Figures to right indicate full marks.

Q1) Multiple Choices Questions.

[8]

- 1) Which of the following are Benefits of Big Data Processing?
 - A) Cost Reduction
 - B) Time Reduction
 - C) Smarter Business Decisions
 - D) All of these
- 2) In Big Data Environments, Variety of data includes _____
 - A) multiple formats and types of data
 - B) structured data in the form of financial transactions
 - C) semi-structured data in the form of emails and unstructured data in the form of images
 - D) All of these
- 3) Which of the following tools are used in Hadoop framework?
 - A) MapReduce, Hive and HBase
 - B) MapReduce, MySQL and Google Apps
 - C) MapReduce, Hummer and Iguana
 - D) MapReduce, Heron and Trumpet

- 4) HBase is a distributed _____ database built on top of the Hadoop file system.
- A) Column-oriented B) Row-oriented
C) Tuple-oriented D) None of these
- 5) You can run Pig in interactive mode using the _____ Shell.
- A) Grunt B) FS
C) HDFS D) None of these
- 6) Which of the following operator executes a shell command from the Hive Shell?
- A) | B) !
C) ^ D) +
- 7) Which of the following is not a NoSQL database?
- A) SQL Server B) MongoDB
C) Cassandra D) None of these
- 8) MongoDB is a _____ database.
- A) SQL B) DBMS
C) NoSQL D) RDBMS
- Q2) A) Define Big Data and explain characteristics of Big Data. [7]
B) Explain Architecture of Hadoop in detail. [7]
- Q3) A) Explain Map-Reduce Architecture in detail. [7]
B) What is HDFS ? Identify different operations of HDFS. [7]
- Q4) A) Explain Pig architecture in detail. [7]
B) Illustrate the usage of User defined functions in Pig with an example. [7]
- Q5) A) Explain different components of Hive. [7]
B) Explain different operators in Hive and suitable example. [7]

- Q6) A) What is NOSQL? Identify different NOSQL products. [7]
B) Explain architecture of HBase in detail. [7]

Q7) Write short notes on. (Any four) [20]

- A) Benefits of Big Data Management
 - B) Examples of Map-Reduce
 - C) Data types in Pig
 - D) Features of Hbase
 - E) NOSQL Storage Architecture
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- 5) A _____ is a device that forwards packets between networks by processing the routing information included in the packet.
A) bridge
B) firewall
C) router
D) hub
- 6) The location of a resource on the internet is given by its _____.
A) Protocol
B) URL
C) E-mail address
D) ICQ
- 7) How many layers are present in the Internet protocol stack (TCP/IP model)?
A) 5
B) 7
C) 6
D) 10
- 8) Which of the following is an application layer service?
A) Network virtual terminal
B) File transfer, access and management
C) Mail service
D) None of these

Q2) Elaborate ISO OSI reference model in detail. [14]

Q3) A) Explain simplex, full duplex and half duplex with an example. [7]

B) Explain the concept of cryptography and its terminologies. [7]

Q4) Explain the various routing algorithms in detail. [14]

Q5) A) Explain the concept of IP address in detail. [7]

B) Explain HTTP and SMTP. [7]

Q6) Explain active and passive attacks of virus with examples. [14]

Q7) Write short notes on. (Any four)

[20]

- A) Flooding
 - B) UDP
 - C) Token management
 - D) Switching techniques
 - E) Firewall
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Total No. of Pages : 3

MCA (COMMERCE) (Part - I) (Semester - II) (CBCS)
Examination, January-2025
SOFTWARE ENGINEERING AND PROJECT MANAGEMENT
Sub. Code : 81163

Day and Date : Friday, 24/01/2025

Total Marks : 70

Time : 02:30 p.m. to 05:30 p.m.

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

Q1) Multiple choice questions.

[8]

- 1) What is Software Engineering?
 - A) Designing a software
 - B) Testing a software
 - C) Application of engineering principles to the design a software
 - D) None of these
- 2) What is a Functional Requirement?
 - A) Specifies the tasks the program must complete
 - B) Specifies the tasks the program should not complete
 - C) Specifies the tasks the program must not work
 - D) All of these
- 3) Agile Software Development is based on which of the following type?
 - A) Iterative Development
 - B) Incremental Development
 - C) Both Incremental and Iterative Development
 - B) Linear Development

- 4) _____ is not suitable for accommodating any change.
 - A) RAD Model
 - B) Waterfall Model
 - C) Build and Fix Model
 - D) Prototyping Model
- 5) Linear model is also called as _____.
 - A) Spiral model
 - B) Iterative model
 - C) Incremental model
 - D) Waterfall model
- 6) Define Agile scrum methodology.
 - A) Project management that emphasizes incremental progress
 - B) Project management that emphasizes decremental progress
 - C) Project management that emphasizes neutral progress
 - D) Project management that emphasizes no progress
- 7) Why do bugs and failures occur in software?
 - A) Because of developers
 - B) Because of companies
 - C) Because of both companies and developers
 - D) None of these
- 8) _____ is a software development life cycle model that is chosen if the development team has less experience on similar projects.
 - A) Iterative Enhancement Model
 - B) RAD
 - C) Spiral
 - D) Waterfall

Q2) Define Software Engineering and explain spiral model. [14]

Q3) Explain Extreme Programming in detail. **[14]**

Q4) Explain COCOMO model in detail. [14]

Q5) Explain functional and nonfunctional requirements. [14]

Q6) Explain project life cycle in detail.

[14]

Q7) Write short notes on. (Any Four)

[20]

- 1) Function point analysis
 - 2) SRS
 - 3) Six sigma
 - 4) CMM
 - 5) RAD
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MCA (COMMERCE) (Semester - II) (CBCS)**Examination, January-2025****Design Thinking and Innovation****Sub. Code : 81165****Day and Date : Monday, 27/01/2025****Total Marks : 70****Time : 02:30 p.m. to 05:30 p.m.**

- Instructions :**
- 1) Question number 1 and Question number 7 are compulsory.
 - 2) Attempt any three questions from question number 2 to question number 6.

Q1) Multiple choice questions.**[8]**

- 1) What is Design Thinking?
 - A) A method facilitated by UX designers
 - B) A process for creative problem solving
 - C) A process to teach design to non-designers
 - D) A methodology developed to discard old design methods
- 2) During which stage would you gather information about people's needs and motivations?
 - A) Prototype
 - B) Define
 - C) Ideate
 - D) Empathize
- 3) After you empathise, the next step is to _____.
 - A) Prototype
 - B) Define
 - C) Test
 - D) Ideate
- 4) After Prototype, the next step is to _____.
 - A) Test
 - B) Define
 - C) Ideate
 - D) Empathise

- 5) What helps the design team and client to visualize and handle the design concept?
 - A) Define
 - B) Ideate
 - C) Empathise
 - D) Prototype
- 6) _____ storytelling is the most compelling type of story.
 - A) Oral
 - B) Visual
 - C) Textual
 - D) All of these
- 7) The meaning of ideate is _____.
 - A) To rapidly change
 - B) To create a 3D model of your design
 - C) To create and share ideas using images and sketches
 - D) To create and share an initial design.
- 8) Innovation is defined as _____.
 - A) the commercialization of a new product or process
 - B) the invention of a new product or process
 - C) a new product or process idea
 - D) the implementation of a new production method

Q2) Explain the Design thinking process in detail with suitable example. [14]

Q3) A) What is research? Identify the importance of research in design thinking process. [7]

B) How to develop mental model of designing? [7]

Q4) Illustrate different prototyping strategies in detail. [14]

Q5) Explain different types of innovation in detail. [14]

- Q6) A) Identify the impact of innovation in design thinking. [7]
B) What are the qualities required for managing innovations? [7]

Q7) Short Notes. (Any Four) [20]

- 1) History Of Design Thinking
 - 2) Storyboards
 - 3) Wireframes
 - 4) Journey mapping
 - 5) User Testing
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