

Seat No.	
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Final Year B. Tech. (Computer Science and Engineering)
(Semester - VII) (CBCS) Examination, March - 2023
ADVANCED COMPUTER ARCHITECTURE
Sub. Code : 83856

Day and Date : Thursday, 15 - 06 - 2023

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) All questions carry equal marks.

- Q1) a) Choose the correct option representing the relationship among processor cycle t_p , memory cycletime t_m , device average access time t_d . [1]
- i) $t_d < t_m < t_p$
 - ii) $t_m < t_d < t_p$
 - iii) $t_m > t_d > t_p$
 - iv) $t_d > t_m > t_p$
- b) The interleaving of CPU and I/O operations among several programs is called _____. [1]
- i) Batch processing
 - ii) Time sharing
 - iii) Multitasking
 - iv) Multiprogramming
- c) In SIMD computer, which of the following scheme is used to partitions the set of PEs into enabled and disable sets? [1]
- i) Routing scheme
 - ii) Broadcasting
 - iii) Network topology
 - iv) Masking scheme
- d) In pipeline, the computer clock period is defined by [1]
- i) Maximum of time delays of all stages plus time delay of latch
 - ii) Minimum of time delays of all stages plus time delay of latch
 - iii) Average of time delays of all stages plus time delay of latch
 - iv) None of the above

P.T.O.

SE - 13

- e) Ideally, a linear pipeline with k stages can process n tasks in _____ clock periods [1]
- i) $k-(n+1)$ ii) $k*(n-1)$
iii) $k+(n+1)$ iv) $k+(n-1)$
- f) In the S access memory organization, which address bits are used to retrieve the information from particular module [1]
- i) Higher $(n-m)$ bits ii) Lower $(n-m)$ bits
iii) Higher m bits iv) Lower m bits
- g) A memory hierarchy takes advantage of [1]
- i) Principle of Locality
ii) Principle of Multithreading
iii) Principle of Multiaccess
iv) None of the above
- h) A cache that has just one block per set (so a block is always placed in the same location) is called _____. [1]
- i) direct-mapped cache ii) fully associative cache
iii) multilevel cache iv) None of the above
- i) In associative memory, which register is used to enable or disable the bit slices to be involved in the parallel comparison operations across all the words in the associative memory? [1]
- i) Masking register ii) Temporary register
iii) Indicator register iv) Comparand register
- j) Which register is used to handle the IF statements in Vector loops? [1]
- i) Vector length register ii) Scalar register
iii) Vector mask register iv) None of the above
- k) GPUs have the following type of parallelism that can be captured by the programming environment: [1]
- i) Multithreading
ii) MIMD
iii) SIMD
iv) Instruction-level
v) All the above

- l) In GPU computational structure, a Grid consists of [1]
 i) ThreadBlocks ii) Threads
 iii) Registers iv) None of the above
- m) Multiprocessors are computers consisting of _____processors. [1]
 i) Tightly coupled ii) Loosely coupled
 iii) Medium coupled iv) None of the above
- n) Symmetric (shared memory) multiprocessors are sometimes called [1]
 _____.
 i) Cache only memory access ii) Uniform memory access
 iii) Non uniform memory access iv) All the above

Q2) Solve any two of the following question (7 Marks Each)

- a) List and explain the parallel processing mechanisms in uniprocessor computers. [7]
- b) Explain basic concept of pipelined processors with space-time diagrams. [7]
- c) What is principle of locality? Explain the typical memory hierarchy. [7]

Q3) Solve any two of the following questions (7 Marks Each)

- a) Explain how to evaluate the cost of an Integrated Circuit. [7]
- b) Explain Handler's classification of pipeline processor according to levels of processing. [7]
- c) Explain the set associative scheme of placing the block in a cache. [7]

Q4) Solve any two of the following question (7 Marks Each)

- a) What is Vector Operand? Explain the classification of vector instructions into four primitive types with example. [7]
- b) Explain the data routing and masking mechanisms for processing elements in SIMD computers. [7]
- c) Explain the basic structure of a centralized shared-memory multiprocessor based on a multicore chip. [7]

Q5) Solve any two of the following question (7 Marks Each)

- a) State the three types of pipelined vector processing methods and explain the horizontal vector processing method with example. [7]
- b) Explain NVIDIA GPU Computational Structure. [7]
- c) What is cache coherence protocol? Explain the two classes of cache coherence protocols. [7]



Seat No.	
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B. Tech. (Computer Science and Engineering) (Part - IV)
(Semester - VII) (CBCS) Examination, March - 2023
CLOUD COMPUTING
Sub. Code : 83857

Day and Date : Friday, 16- 06- 2023

Total Marks : 70

Time : 02.30 p.m. to 05.00 p.m.

- Instructions:
- 1) All questions are compulsory.
 - 2) Assume suitable data wherever necessary.
 - 3) Figures to the right indicate full marks.

Q1) Solve MCQs.

(1 Mark Each)

- i) How many service models are primarily present in the Cloud?
 - a) 1
 - b) 2
 - c) 3
 - d) 4
- ii) _____ describes a distribution model in which applications are hosted by a service provider and made available to users.
 - a) IAAS - Infrastructure-as-a-Service
 - b) PaaS - Platform-as-a-Service
 - c) SaaS - Software-as-a-Service
 - d) All the answers are true
- iii) What is the IaaS service provider?
 - a) EC2
 - b) EC1
 - c) EC10
 - d) hybride
- iv) _____ allows you to leverage the seemingly infinite compute resources of cloud infrastructure.
 - a) IaaS
 - b) SaaS
 - c) CaaS
 - d) PaaS
- v) Which of the following is a type of cloud computing service?
 - a) Software-as-a-Service (SaaS)
 - b) Software-and-a-Server (SaaS)
 - c) Service-as-a-Software (SaaS)
 - d) Software-as-a-Server (SaaS)

- vi) The example of IaaS service model.
- a) Cloudera
 - b) Azure
 - c) AWS
 - d) All of above
- vii) Google Apps is a suite of cloud computing _____ applications that includes e-mail (Gmail), Organizer (Google Calendar), Word Processing documents (Google Docs), and others.
- a) IaaS
 - b) PaaS
 - c) SaaS
 - d) None of the Above
- viii) Which of the following is among the primary uses of cloud computing?
- a) security
 - b) data storage
 - c) data privacy
 - d) operational cost
- ix) Which of these is not a major type of cloud computing usage?
- a) Platform as a Service
 - b) Software as a Service
 - c) Internet as a Service
 - d) Infrastructure as a Service
- x) _____ is a complete operating environment with a user interface and applications.
- a) IaaS
 - b) SaaS
 - c) PaaS
 - d) All the answers are true
- xi) _____ provides virtual machines, virtual storage, virtual infrastructure and other hardware assets.
- a) IaaS
 - b) SaaS
 - c) PaaS
 - d) All the answers are true
- xii) Which of the following has three delivery models: Infrastructure as a Service, Platform as a Service and Software as a Service,
- a) cloud provider
 - b) cloud service
 - c) cloud enabler
 - d) none of the Above
- xiii) In a _____ cloud computing environment the organization itself provides and manages some resources locally and the remaining other resources provided externally.
- a) public
 - b) hybrid
 - c) private
 - d) all of the Above
- xiv) _____ cloud supports the utmost scalability and effectiveness for a business.
- a) public
 - b) hybrid
 - c) private
 - d) all of the Above

- vi) The example of IaaS service model.
- a) Cloudera
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- xiv) _____ cloud supports the utmost scalability and effectiveness for a business.
- a) public
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 - c) private
 - d) all of the Above

Q2) Solve any 2 of the following:

- a) Explain characteristics of cloud computing.
- b) Explain Platform as a Services (PaaS).
- c) Explain benefits of virtualization.

Q3) Solve any 2 of the following:

(7 Marks Each)

- a) Describe implementation levels of virtualization.
- b) Explain Infrastructure as a Services (IaaS).
- c) Differentiate between cloud computing and grid computing.

Q4) Solve any 2 of the following:

(7 Marks Each)

- a) Describe different approach to virtualization.
- b) Explain case study Amazon EC2.
- c) Explain Service level Agreements (SLAs).

Q5) Solve any 2 of the following:

(7 Marks Each)

- a) Describe features of Google computing engine.
- b) Explain Service Oriented Architecture (SOA).
- c) Explain data privacy and security issues in cloud computing.



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Final Year B. Tech. (Computer Science and Engineering)
(Semester - VII) (CBCS) Examination, March - 2023
ADVANCED COMPUTER ARCHITECTURE
Sub. Code : 83856

Day and Date : Thursday, 15 - 06 - 2023

Total Marks : 70

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- Instructions :
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P.T.O.

- e) Ideally, a linear pipeline with k stages can process n tasks in _____ clock periods [1]
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Q2) Solve any two of the following question (7 Marks Each)

- a) List and explain the parallel processing mechanisms in uniprocessor computers. [7]
- b) Explain basic concept of pipelined processors with space-time diagrams. [7]
- c) What is principle of locality? Explain the typical memory hierarchy. [7]

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- b) Explain Handler's classification of pipeline processor according to levels of processing. [7]
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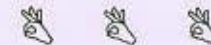
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Q4) Solve any two of the following question (7 Marks Each)

- a) What is Vector Operand? Explain the classification of vector instructions into four primitive types with example. [7]
- b) Explain the data routing and masking mechanisms for processing elements in SIMD computers. [7]
- c) Explain the basic structure of a centralized shared-memory multiprocessor based on a multicore chip. [7]

Q5) Solve any two of the following question (7 Marks Each)

- a) State the three types of pipelined vector processing methods and explain the horizontal vector processing method with example. [7]
- b) Explain NVIDIA GPU Computational Structure. [7]
- c) What is cache coherence protocol? Explain the two classes of cache coherence protocols. [7]



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Fourth Year B.Tech. (Computer Science and Engineering)
(Semester - VIII) (CBCS) Examination, March - 2023
BIG DATA ANALYTICS

Sub. Code : 84719

Day and Date : Thursday, 15 - 06 - 2023

Total Marks : 70

Time : 10.30 a.m. to 01.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Assume suitable data wherever necessary.
 - 3) Figures to the right indicates full marks.

Q1) Solve MCQs. (2 Marks Each)

- a) What are the main components of Hadoop?
 - i) MapReduce
 - ii) HDFS
 - iii) YARN
 - iv) All of the above
- b) Pig is a Hadoop-based open-source platform for analyzing the large-scale datasets via its own SQL-like language _____.
 - i) Pig Latin
 - ii) Pig German
 - iii) Pig Roman
 - iv) Pig Italian
- c) Which of the following scenarios makes HDFS unavailable?
 - i) TaskTracker failure
 - ii) JobTracker failure
 - iii) NameNode failure
 - iv) DataNode failure
- d) Which is not a way to link R and Hadoop?
 - i) RHIPE
 - ii) RHadoop
 - iii) Hadoop Streaming
 - iv) RHDFS
- e) _____ phase of the data analytics lifecycle usually takes the longest time.
 - i) Phase 2: Data Preparation
 - ii) Phase 3: Model Planning
 - iii) Phase 4: Model Building
 - iv) Phase 5: Communicate Results

P.T.O.

- f) _____ is a distributed machine learning framework on top of Spark.
- i) MLlib
 - ii) GraphX
 - iii) Spark Streaming
 - iv) RDDs
- g) Which of the following are common classes of problems in machine learning?
- i) Regression
 - ii) Classification
 - iii) Clustering
 - iv) All of the above

Q2) Solve any 2 of the following. (7 Marks Each)

- a) Define Big Data? Explain the Characteristics / V's of Bigdata?
- b) What is HDFS? Explain the features of HDFS?
- c) Explain the architecture of RHIPe.

Q3) Solve any 2 of the following. (7 Marks Each)

- a) Explain different applications of Big Data.
- b) List and explain different components of Hadoop.
- c) Explain the hstablereader function for Hadoop streaming.

Q4) Solve any 2 of the following. (7 Marks Each)

- a) Explain Data Analytics project life cycle stages.
- b) What is Resilient Distributed Dataset (RDD)? Explain transformations and actions in RDD. Explain RDD operations in brief?
- c) What is machine learning? Explain types of machine-learning algorithms.

Q5) Solve any 2 of the following. (7 Marks Each)

- a) Write a case study for predicting the auction sales price of heavy equipment to create a blue book for bulldozers.
- b) What are the Spark DataFrames? Why do we use them in Spark?
- c) How do you create a recommendation algorithm with Rand Hadoop?



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Total No. of Pages : 3

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F.Y. B.Tech. (Computer Science and Engineering) (Part - IV)
(CBCS) (Semester - VIII) Examination, March - 2023

PROJECT MANAGEMENT

(Elective - II)

Sub. Code : 84724

Day and Date : Monday, 19 - 06 - 2023

Total Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Assume suitable data, wherever necessary.
 - 3) Figures to the right indicate full marks.

Q1) Solve MCQs.

[2 each]

- i) Project portfolio management addresses _____ goals of an organization, while project management addresses _____ goals.
 - a) strategic, tactical
 - b) tactical, strategic
 - c) internal, external
 - d) external, internal
- ii) Which of the following is not a best practice for new product development projects?
 - a) aligning projects and resources with business strategy
 - b) selecting projects that will take less than two years to provide payback
 - c) focusing on customer needs in identifying projects
 - d) assigning project managers to lead projects

P.T.O.

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- iii) What tool and technique is used for all processes of project integration management?
- a) project management software
 - b) templates
 - c) expert judgment
 - d) all of the above
- iv) Predecessors, successors, logical relationships, leads and lags, resource requirements, constraints, imposed dates, and assumptions are all examples of _____.
- a) items in an activity list
 - b) items on a Gantt chart
 - c) milestone attributes
 - d) activity attributes
- v) What tool can you use to determine whether a process is in control or out of control?
- a) a cause-and-effect diagram
 - b) a control chart
 - c) a run chart
 - d) a control panel diagram
- vi) A risk _____ is a document that contains results of various risk management processes, and is often displayed in a table or spreadsheet format.
- a) management plan
 - b) register
 - c) breakdown structure
 - d) probability/impact matrix
- vii) _____ is a quantitative risk analysis tool that uses a model of a system to analyze its expected behavior or performance.
- a) Simulation
 - b) Sensitivity analysis
 - c) Monte Carlo analysis
 - d) EMV

Q2) Solve any two of the following.

[7 each]

- a) What are the phases in traditional project life cycle? How does the project Life cycle differ from product life cycle?
- b) Explain and describe a well planned and executed project. Describe a failed project. What elements of project integration might have contributed to the success or failure of each?
- c) What is Project Scope Management? Explain six main processes involved in it.

Q3) Solve any two of the following.

[7 each]

- a) What is a project? What are its main attributes and project constraints?
- b) Write a short note on Weighted Scoring Model.
- c) What is meant by a sunk cost? Give examples of typical sunk costs for an IT project as well as examples from your personal life. Why is it difficult for people to ignore them when they should?

Q4) Solve any two of the following

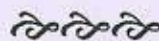
[7 each]

- a) What are the main processes in project quality management?
- b) Explain Four basic response strategies for negative and positive risks.
- c) Explain in detail about scrum methodology.

Q5) Solve any two of the following

[7 each]

- a) Discuss the difference between resource loading and resource leveling, and provide an example of when you would use each technique.
- b) Describe the contents of a risk register and how it is used in several risk management processes.
- c) List and explain Agile methodology approaches.



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Total No. of Pages : 3

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**F.Y. B.Tech. (Computer Science and Engineering) (Part - IV)
(CBCS) (Semester - VII) Examination, March - 2023**

SOFTWARE TESTING AND QUALITY ASSURANCE

Sub. Code : 83860

Day and Date : Monday, 19 - 06 - 2023

Total Marks : 70

Time : 2.30 p.m. to 05.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Assume suitable data wherever necessary.
 - 3) Figures to the right indicate full marks.

Q1) Solve MCQs.

[1 each]

- i) Why should testing be done?
 - a) To ensure the correctness of a program
 - b) To find errors in a program
 - c) To establish the reliability of a program
 - d) To certify the effectiveness of a program
- ii) Software errors during coding are known as:
 - a) Bugs
 - b) Defects
 - c) Failures
 - d) Mistakes
- iii) The focus of acceptance testing is:
 - a) To find faults
 - b) To ensure correctness of software
 - c) To test integration related issues
 - d) To test from the user's perspective
- iv) Which of the following is not true?
 - a) Verification is the process of executing a program.
 - b) Verification is the process of examining a program.
 - c) Verification is the process of inspecting a program.
 - d) Verification is the process of understanding a program.

P.T.O.

- v) What is the IEEE standard for SDD document?
 - a) IEEE std. 830-1998
 - b) IEEE std. 1016-1998
 - c) IEEE std. 829-1998
 - d) IEEE std. 831-1998
- vi) Software quality is determined by
 - a) The number of bugs only
 - b) The sales level of the software
 - c) How well the software meets the needs of the business
 - d) None of the above
- vii) Which is not a component of a use case diagram?
 - a) Actor
 - b) Use case
 - c) Relationship between actor and use case
 - d) Test case
- viii) Regression testing is primarily related to
 - a) Functional testing
 - b) Data flow testing
 - c) Maintenance testing
 - d) Development testing
- ix) Regression testing process may include
 - a) Fault Identification
 - b) Code modification
 - c) Test cases selection
 - d) All of the above
- x) Risk should include
 - a) Probability of occurrence of a problem
 - b) Impact of that problem
 - c) Test cases
 - d) (a) and (b) both
- xi) Which of the following testing technique can be used in order to determine the validation test?
 - a) Black-box Testing
 - b) White-box Testing
 - c) Yellow-box Testing
 - d) All of the above
- xii) Automated test data generation is used to generate
 - a) Test data
 - b) Test cases
 - c) Test suite
 - d) All of the above
- xiii) Which one is not a load testing metric?
 - a) Number of concurrent users
 - b) Wait Time
 - c) Total links on a page
 - d) Throughput
- xiv) Virus testing ensures that
 - a) The network is protected from intruders
 - b) Anti-virus software identifies, detects and removes viruses
 - c) Hyperlinks function properly
 - d) Anti-virus software is installed

Q2) Solve any two of the following.

[7 each]

- a) Describe some software failures. How can we minimize such failures?
- b) Discuss the areas which must be included in a good SDD design checklist. How is it useful to improve the quality of the document?
- c) What is regression testing? Discuss various categories of selective re-test problem.

Q3) Solve any two of the following.

[7 each]

- a) Differentiate between the V-shaped software life cycle model and the waterfall model.
- b) Discuss some characteristics which the SRS document must address. How can these be incorporated in a checklist?
- c) Explain the various steps for the generation of test cases from the use cases. Why do we identify variables in a use case?

Q4) Solve any two of the following.

[7 each]

- a) Describe the testing tools
 - i) Load Runner
 - ii) Win Runner
- b) What are the Seven Steps for Testing process?
- c) What is web testing? Differentiate between client/server applications and web application.

Q5) Solve any two of the following.

[7 each]

- a) List and explain some Automation and Testing Tools.
- b) Describe Verification Testing, Validation Testing.
- c) What are genetic algorithms? How are they different from traditional exhaustive search based algorithms?



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Total No. of Pages : 3

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B.Tech. (Computer Science and Engineering) (Part - IV)
(Semester - VIII) (CBCS) Examination, March - 2023

DEEP LEARNING

Sub. Code : 84720

Day and Date : Saturday, 17 - 06 - 2023

Total Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
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Q1) Solve MCQs. (1 Mark Each)

[14×1=14]

- a) Which neural network has only one hidden layer between the input and output?
 - i) Shallow neural network
 - ii) Deep neural network
 - iii) Feed-forward neural network
 - iv) Recurrent neural network
- b) Which of the following is/Are limitations of Deep learning?
 - i) Datalabeling
 - ii) Obtain huge training datasets
 - iii) Both (i) and (ii)
 - iv) None of the above
- c) Which of the following would have a constant input in each epoch of training a deep learning model
 - i) Weight between input and hidden layer
 - ii) Weight between hidden and output layer
 - iii) Biases of all hidden layer neurons
 - iv) Activation function of output layer
- d) Keras is a deep learning framework on which tool
 - i) R
 - ii) Tensorflow
 - iii) SAS
 - iv) Azure

P.T.O.

- e) Why Tensorflow uses computational graphs?
- Tensors are nothing but computational graphs
 - Graphs are easy to plot
 - There is no such concept of computational graphs in Tensor Flow
 - Calculations can be done in parallel
- f) Can we have multidimensional tensors
- No tensor can have maximum two dimensions
 - Possible only in image data
 - Yes possible
 - Possible only in geo tagged data
- g) _____ reduces each channel in the feature map to a single value.
- Max Pooling
 - Average Pooling
 - Global Pooling
 - None of these
- h) What holds the raw input of image used to build ConvNets?
- Input Layer
 - Convolutional Layer
 - Activation Function Layer
 - Pool Layer
- i) RNN stands for _____.
- Recursive Neural Network
 - Recurrent Neural Network
 - Recurring Neural Network
 - Removable Neural Network
- j) The main and most important feature of RNN is _____.
- Visible State
 - Hidden State
 - Present State
 - None of these
- k) _____ is a high level API built on Tensor Flow.
- PyBrain
 - Keras
 - PyTorch
 - Theano

- l) What is true about Keras?
- Keras is an API designed for human beings, not machines
 - Keras follows best practices for reducing cognitive load
 - It provides clear and actionable feedback upon user error
 - All of the above
- m) GNN Stand for _____.
- Generative Advertising Network
 - Generative Adversarial Network
 - Generate Adversarial Network
 - Generation Adversarial Network
- n) Generative Adversarial Networks was developed and introduced in _____.
- 2015
 - 2014
 - 2013
 - 2012

Q2) Solve any 2 of the following (7 Marks Each). [2×7=14]

- What is the neural network and how to representation of the data for neural network.
- What is Keras? Define flatten layer in Keras.
- Explain Max Pooling Operation?

Q3) Solve any 2 of the following (7 Marks Each). [2×7=14]

- What are the limitations of deep learning?
- Define Tensor, Rank of Tensor and shape of tensor?
- What do you mean by Convolutional Neural Network? Explain CNN with example.

Q4) Solve any 2 of the following (7 Marks Each). [2×7=14]

- Explain one hot encoding with one example?
- What is Sequential model and explain it briefly?
- What is Deep Generative Learning? How to generate images just based on the text using Generative Deep Learning?

Q5) Solve any 2 of the following (7 Marks Each). [2×7=14]

- Explain LSTM with diagram?
- Write short note on Batch Normalization.
- Explain briefly about Deep Dream with example.



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F.Y. B.Tech. (Computer Science and Engineering) (Part - IV)
(CBCS) (Semester - VIII) Examination, March - 2023

BLOCK CHAIN TECHNOLOGIES (Elective - III)

Sub. Code : 84728

Day and Date : Wednesday, 21 - 06 - 2023

Total Marks : 70

Time : 10.30 a.m. to 01.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Assume suitable data wherever necessary.

Q1) Solve MCQs.

[7×2=14]

- a) Bitcoin is created by _____.
 - i) Saifedien Ammous
 - ii) Bill Buterin
 - iii) Satoshi Nakamoto
 - iv) None of the above
- b) The term used for blockchain splits is
 - i) fork
 - ii) division
 - iii) merger
 - iv) None of the above
- c) What is the purpose of a nonce?
 - i) A hash function
 - ii) Sends information to the blockchain
 - iii) Follows nouns
 - iv) Prevents double spending network
- d) What is the value of using block chain networks with Internet of Things (IoT)?
 - i) Allowing block chain users to follow self-driving cars and access these cars
 - ii) Avoiding a spoofing attack using the secured identity that is stored on a block chain
 - iii) Enabling software that programs itself to solve problems without human intervention
 - iv) Solving expensive and complex calculations using Hyperledger Fabric mining

P.T.O.

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- e) A bearer instrument used to transfer value between two parties over a blockchain network?
- A DApp
 - A Hash
 - A Node
 - A Token
- f) What is the role of a DAO (decentralized autonomous organization)?
- Address the principal-agent dilemma with collaboration and acceptance of actions within agreed rules
 - Embed regulated online smart contracts with the current judicial system, using public blockchains
 - Offer complex online smart contracts without any link to tangible and intangible offline assets
 - Provide a private blockchain contract platform on which users can run their online applications
- g) An attacker tries to corrupt the transaction history of a blockchain to be able to spend a token or a cryptocurrency twice? What is the most likely thing this attacker did?
- The attacker changed the transaction on his node and propagated it in the network
 - The attacker edited the smart contract and recovered investor's cryptocurrency
 - The attacker gained control of more than 51% of the network's computing power
 - The attacker hard-forked the network and created a new blockchain network

Q2) Solve any two of the following.

[2×7=14]

- Explain Two General Problem in detail.
- What is Zero Knowledge proof; explain in detail with neat diagram
- Explain Advantage of blockchain over conventional distributed database.

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[2×7=14]

Q3) Solve any two of the following.

- Write the difference between Private and Public blockchain.
- Explain Sybil Attack in blockchain, what are different prevention mechanisms.
- Write a short note on Merkle Patricia Tree.

Q4) Solve any two of the following.

[2×7=14]

- Explain blockchain-based IoT model, with neat diagram.
- Write a note on Attacks and Vulnerabilities in cryptocurrency.
- How the distributed ledger technology works in case of blockchain.

Q5) Solve any two of the following.

[2×7=14]

- Explain blockchain application in Medical Record Management System.
- Black market and Global economy.
- Who are the stakeholders for the cryptocurrency/ cryptocurrency regulation, explain in detail.

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**F.Y. B.Tech. (Computer Science and Engineering) (Part - IV)**  
**(CBCS) (Semester - VIII) Examination, March - 2023**

## HUMAN COMPUTER INTERACTION

**Sub. Code : 84729**

**Day and Date : Wednesday, 21 - 06 - 2023**

**Total Marks : 70**

**Time : 10.30 a.m. to 01.00 p.m.**

- Instructions :**
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Assume suitable data wherever necessary.

**Q1) Solve MCQs.**

[14×1=14]

- i) In HCI, text could be replaced by graphical image called \_\_\_\_\_.
  - a) Pixels
  - b) Icons
  - c) Text
  - d) Window
- ii) What makes system difficult?
  - a) use of jargon
  - b) Design inconsistency
  - c) Fine distinction
  - d) All of above
- iii) \_\_\_\_\_ are example of direct manipulation.
  - a) moving Cursor action
  - b) control panel
  - c) pinching screen
  - d) Both (a) and (c)
- iv) Sharing same colour, shape and size is which example of \_\_\_\_\_.
  - a) Proximity
  - b) Succinctness
  - c) Closure
  - d) Similarity
- v) \_\_\_\_\_ is human reading speed in prose text.
  - a) 150-160 words
  - b) 150 words
  - c) 250-300 words
  - d) 37 words
- vi) Which memory stores the run time information?
  - a) Short-term
  - b) Long-term
  - c) Mighty
  - d) Sensory
- vii) Screen design must be compatible with the capability of the system, including \_\_\_\_\_.
  - a) Screen size
  - b) System architecture
  - c) System hardware
  - d) System software

*P.T.O.*



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- viii) \_\_\_\_\_ refers to the graphic design and layout of user interfaces on displays.
- a) Screen design                      b) Interface design  
c) Generic design                    d) None of these
- ix) Ctrl, shift and alt are called \_\_\_\_\_ keys.
- a) Adjustment                      b) Function  
c) Modifier                         d) Alphanumeric
- x) In window ME, what does ME stands for?
- a) Millennium                      b) Micro-Expert  
c) Macro-Expert                    d) Multi-Expert
- xi) Information architecture influences \_\_\_\_\_.
- a) Navigation design                b) Site structure  
c) Labelling                         d) None of these
- xii) Interface design establishes the layout and \_\_\_\_\_.
- a) Test the application                b) Interaction mechanisms  
c) Design coding app                d) None of these
- xiii) Select the elements of mobile design \_\_\_\_\_.
- a) Context, layout graphics  
b) Message colour  
c) Information architecture, operator  
d) All of these
- xiv) JavaScript is \_\_\_\_\_ language?
- a) Structural                         b) An Object-Based  
c) Procedural                        d) None of the above

Q2) Solve any two of the following.

[2×7=14]

- a) What is HCI and why it is important?  
b) Why people have trouble with computer?  
c) Write a short note on ordering of data and content.

Q3) Solve any two of the following.

[2×7=14]

- a) What is meant by good user interface? Explain with example?  
b) What is design? What is the golden rule of design? Illustrate the process of interaction design.  
c) Explain in detail navigation and flow in screen design.

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[2×7=14]

Q4) Solve any two of the following.

- a) Explain the concept of overlapping windows?  
b) What is mobile application media matrix?  
c) What are the various mobile designing tools? Explain how to use it for developing an application?

Q5) Solve any two of the following.

[2×7=14]

- a) How to organize the window functions?  
b) Describe the information architecture of mobile application?  
c) Write a short note on :  
i) Device plans  
ii) Mark-Up  
iii) JavaScript

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