Sample Questions

Department of Information Technology

Subject Name: Big Data Analytics **Semester: VIII**

Multiple Choice Questions

Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	Type of consistency in BASE for NOSQL is
Option A:	Eventual Consistency
Option B:	Strong Consistency
Option C:	Partition Consistency
Option D:	Weak Consistency
2.	An algorithm that divides the entire file of baskets into segments small enough so that all frequent itemset for the segment can be found in main memory is:
Option A:	PCY Algorithm
Option B:	Randomized Algorithm
Option C:	DGIM Algorithm
Option D:	SON Algorithm
3.	Which of the following factors have an impact on the Google PageRank?
Option A:	The total number of inbound links to a page of a web site
Option B:	The subject matter of the website
Option C:	The count of number of times a word repeats on a website
Option D:	The number of outbound links from the page
4.	Map function takes which of the following as input:
Option A:	File on the desktop
Option B:	HDFS block on Data Node
Option C:	File on the server
Option D:	Block on the server
5.	Two k-cliques are adjacent when they share
Option A:	2*k nodes
Option B:	k+1 nodes
Option C:	k-1 nodes
Option D:	k nodes
6.	Identify 3V’s of Big Data
Option A:	Volume, Velocity & Variety
Option B:	Volume, Velocity & Variability
Option C:	Volume, Velocity & Veracity
Option D:	Visualization, Velocity & Value

7.	PCY algorithm is used in the field of big data analytics for
Option A:	Filtering the data stream with large data
Option B:	Hierarchical clustering for large data
Option C:	Frequent itemset mining when the dataset is very large.
Option D:	Counting triangles in social networks
8.	Stream Queries are basically questions asked about the current state of the stream or streams is called as
Option A:	Continuous Queries
Option B:	Adhoc Queries
Option C:	One-time Queries
Option D:	Predefined Queries
9.	Heartbeat is used to communicate between
Option A:	Job Tracker & Task Tracker
Option B:	Name node & Secondary Name Node
Option C:	Job Tracker & Name Node
Option D:	Data Node & Name Node
10.	How Bloom's Filter is different than other filtering algorithms in Data Stream Mining?
Option A:	Bloom's Filter does not use a hash function, whereas other filtering algorithms use hash values.
Option B:	Bloom's Filter uses probabilistic data structure whereas other algorithms do not use probabilistic data structure.
Option C:	Bloom's Filter uses fix structures of data as compared to other.
Option D:	Bloom's Filter is not a filtering algorithm.

11.	Which is an important feature of Big Data Analytics?
Option A:	Portability
Option B:	Scalability
Option C:	Reliability
Option D:	Durability
12.	A sparse matrix system that uses a row and a column as keys is called as
Option A:	Advanced Store
Option B:	Data structures
Option C:	Key-value store
Option D:	Column family store
13.	What do you always have to specify for a MapReduce job?
Option A:	The classes for the mapper and reducer
Option B:	The classes for the mapper, reducer, and combiner
Option C:	The classes for the mapper, reducer, partitioner, and combiner
Option D:	You need not specify anything as all classes have default implementations
14.	The only security feature that exists in Hadoop is

Option A:	Name Node and Data Node Permissions
Option B:	HDFS file- and directory-level ownership and permissions
Option C:	Map Reduce Permissions
Option D:	Zookeeper
15.	In which of the relational algebra operations, the reduce function is identity?
Option A:	Intersection
Option B:	Projection
Option C:	Union
Option D:	Selection
16.	Assume that a text file contains following text. This is a test. Yes it is In a map-reduce logic of finding frequency of occurrence of each word in this file, what is the output of map function?
Option A:	(This,1), (is, 1), (a, 1), (a,1)
Option B:	(This,1), (is, 1), (a, 1), (test., 1), (Yes, 1), (it, 1), (is, 1)
Option C:	(This,1), (is, 2), (a, 1), (test., 1), (Yes, 1), (it, 1), (is, 1)
Option D:	(This,1), (is, 2), (a, 1), (test., 1), (Yes, 1), (it, 1)
17.	Flajolet-Martin Algorithm depends upon
Option A:	Linear function and Binary Equivalent trailing zeros
Option B:	Hash function and Binary Equivalent trailing once
Option C:	Hash function and Binary Equivalent trailing zeros
Option D:	Hash function and Decimal Equivalent trailing zeros
18.	In Decaying window algorithm, we assign
Option A:	more weight to newer elements
Option B:	less weight to newer elements
Option C:	more weight to older elements
Option D:	less weight to older elements
19.	In DGIM algorithm,
Option A:	If a bucket contains a frequent pair, then the bucket is surely frequent
Option B:	If a bucket contains a frequent pair, then the bucket is surely not frequent
Option C:	If a bucket not contains a frequent pair, then the bucket is surely frequent
Option D:	If a bucket not contains a frequent pair, then the bucket is surely not frequent
20.	In FM algorithm , For each stream element a, r(a) be the number of _____ in h(a)
Option A:	trailing 0's
Option B:	trailing 1's
Option C:	all 0's
Option D:	all 1's

21.	Euclidean Distance between Age 21 and 24 and Income 500 and 504 is
Option A:	5
Option B:	25
Option C:	7
Option D:	678
22.	Jaccard Distance between Set1 = {1,0,1,1,1} and Set2 = {1,0,0,1,1} is
Option A:	3/4
Option B:	1/4
Option C:	2/4
Option D:	1
23.	A Bloom filter consists of an array of n bits, initially all :
Option A:	Garbage Value
Option B:	1's
Option C:	0’s.
Option D:	Combination of 0's and 1's
24.	Algorithm to estimate number of distinct elements seen in the stream.
Option A:	FM Algorithm
Option B:	DGIM algorithm
Option C:	HITS Algorithm
Option D:	Bloom Filter
25.	The right end of a bucket in DGIM algorithm is always a position with a
Option A:	even number
Option B:	combination 0 's and 1's
Option C:	0
Option D:	1
26.	A collection of pages whose purpose is to increase the PageRank of a certain page or pages is called a

Option A:	page rank
Option B:	spam farm.
Option C:	dead end
Option D:	spider trap
27.	To compute page rank we need to know the
Option A:	probablity that a random surfer will land at the page
Option B:	size of the page in bytes
Option C:	sequence of the page
Option D:	web servers name
28.	In PCY Algorithm which technique is used to filter unnecessary itemset
Option A:	Association Rule
Option B:	Hashing Technique
Option C:	Data Mining
Option D:	Market basket
29.	Euclidean Distance between Age 21 and 24 and Income 500 and 504 is
Option A:	5
Option B:	25
Option C:	7
Option D:	678
30.	Jaccard Distance between Set1 = {1,0,1,1,1} and Set2 = {1,0,0,1,1} is
Option A:	3/4
Option B:	1/4
Option C:	2/4
Option D:	1

Descriptive Questions

Q No	10 marks each
1	Explain the types of NoSQL data stores and their typical usage.
2	Explain working of all phases of MapReduce with one common example.
3	Explain how Hadoop goals are covered in Hadoop distributed file system.
4	Explain Page rank algorithm with an example. State the problems occurred in the algorithm and ways to solve them.
5	Explain Park-Chen-Yu algorithm. How memory mapping is done in PCY.
6	How is recommendation done based on properties of product? Explain with suitable example.
7	Explain CURE algorithm with Initialization and Completion phases.
8	Explain PageRank algorithm with a suitable example.
9	Explain Girvan Newman method for community detection in social network.
10	Explain NOSQL design patterns with its benefits and example.
11	Discuss 2 step Matrix-Matrix Multiplication algorithm using MapReduce with example.
12	What is Hadoop? Describe HDFS architecture in detail. Give advantages and limitations of Hadoop.
13	What is HDFS? List features of HDFS?
14	Define PageRank? Illustrate PageRank calculation?
15	Define Jaccard Distance? Find Jaccard distances between the following pair of vectors? [1, 2, 3, 4, 5, 6] and [3, 4, 5, 6, 7, 8]

Q No	5 marks each
1	What are three V's of Big Data? Give two example of big data case studies. Indicate which V's are satisfied by these case studies.
2	For following operations write the Map Reduce pseudo code: 1. Matrix Vector multiplication 2. Selection 3. Union
3	List the different issues and challenges in data stream query processing.
4	Explain how failures are handled in MapReduce job?
5	What is DGIM? State the rules used in DGIM Algorithm.
6	Explain CURE algorithm, clearly stating its advantages over traditional clustering

	algorithm.
7	Give problems in Flajolet-Martin (FM) algorithm to count distinct elements in a stream.
8	Explain the nearest neighbor problem. What similarity measure can be used in an application to find plagiarism in documents.
9	Explain the importance of counting triangles in social networks.
10	Give importance of “Shuffle and Sort” phase of Hadoop.
11	Differentiate between SQL and NoSQL.
12	Define Blooms filter and list its application.
13	Explain FM algorithm with example.
14	Explain HITS algorithm.
15	List and comment different models of Recommendation System.

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Sample Questions

Information Technology

Subject Name: Internet of Everything **Semester: VIII**

Multiple Choice Questions

Q1.	**Choose the correct option for following questions. All the Questions carry equal marks**
1.	Which RFID tag does not need an embedded power?
Option A:	Active
Option B:	Passive
Option C:	Semi-Passive
Option D:	Semi-Active
2.	The basic IoT Functions are identifying, sensing and _____.
Option A:	Addressing
Option B:	Communicating
Option C:	Routing
Option D:	Actuating
3.	Alkaline batteries have a _____life as compared to Lithium batteries
Option A:	Longer
Option B:	Shorter
Option C:	Equal
Option D:	Resistant
4.	_____ act as primary devices to collect data from the environment.
Option A:	Machines
Option B:	Antenna
Option C:	Sensors
Option D:	Switch
5.	The frequency corresponding to the maximum voltage across the primary coil in RFID is known as the _____.
Option A:	Recurring Frequency
Option B:	Resulting Frequency
Option C:	Reserved Frequency
Option D:	Resonant Frequency
6.	In a Monostatic Antenna the Isolator has _____ Ports.
Option A:	1
Option B:	2

Option C:	3
Option D:	4
7.	In passive Tag Class 2 is _____
Option A:	Read Only
Option B:	Read/Write
Option C:	Read, Write once
Option D:	Write once
8.	The sensor nodes can communicate among themselves using _____.
Option A:	X-Rays
Option B:	Radio signals
Option C:	Microwaves
Option D:	Sound Waves
9.	In Mobile IP, the _____stores the permanent information of the mobile users.
Option A:	HLR
Option B:	VLR
Option C:	SLR
Option D:	PLR
10.	Hadoop Ecosystem does not includes _____
Option A:	Oozie
Option B:	Yarn
Option C:	Hive
Option D:	Zoo
11.	_____ applications come under “Retail “ for IoT?
Option A:	Smart grids
Option B:	Smart roads
Option C:	Inventory management
Option D:	Renewable energy system
12.	What is the advantage of Dynamic Binary Tree Slotted ALOHA?
Option A:	Easy Frame Adjustment
Option B:	Memory less
Option C:	Improved Efficiency
Option D:	Fast slotting
13.	A good bar code reader can read
Option A:	Only one bar code at a time
Option B:	Two barcodes at once
Option C:	Many barcodes at once

Option D:	Many barcodes, at the same time, from a distance of several feet
14.	MQTT topics are
Option A:	Simple floating point
Option B:	Simple integer
Option C:	Simple symbol
Option D:	Simple string
15.	_____ localization algorithm works according to the last known or estimated location by using velocity or acceleration.
Option A:	Dead reckoning
Option B:	Scene analysis
Option C:	Proximity
Option D:	Hybrid
16.	Hadoop run on _____
Option A:	Mac
Option B:	Cross-platform
Option C:	Linux
Option D:	Linux + Windows
17.	ZigBee is based on the following standard
Option A:	IEEE802.15.1
Option B:	IEEE803.15.6
Option C:	IEEE802.15.4
Option D:	IEEE801.15.4
18.	The L2 handover latency is between
Option A:	68.74ms and 396.76 ms
Option B:	58.74ms and 390.76 ms
Option C:	55.74ms and 396.76 ms
Option D:	58.74ms and 396.76 ms
19.	The license of Hadoop distributed is under
Option A:	Commercial
Option B:	Sun microsystems
Option C:	Mozilla
Option D:	Apache
20.	Bluetooth 5.0 promises:
Option A:	4x Speed, 2x Range, 2x Data
Option B:	6x Speed, 3x Range, 3x Data
Option C:	2x Speed, 4x Range, 8x Data
Option D:	3x Speed, 4x Range, 8x Data

21	A pure ALOHA network transmits 200 bits frames on a shared channel of 200 kbps. What is the throughput if the system (all stations together) produces 500 frames per second?
Option A:	156 frames
Option B:	146 frames
Option C:	92 frames
Option D:	38 frames
22	Anteena's efficiency is given by the ratio of_____
Option A:	Effective aperture to physical aperture
Option B:	Physical aperture to effective aperture
Option C:	Signal Power to noise power
Option D:	Losses
23	In pure ALOHA, the vulnerable time is _____ the frame transmission time.
Option A:	the same as
Option B:	two times
Option C:	three times
Option D:	half times
24	Link budget consists of calculation of_____
Option A:	Useful signal power
Option B:	Interfering noise power
Option C:	Signal power to noise power
Option D:	Useful signal & Interfering noise power
25	If there are n devices in a mesh topology network then the total number of duplex links are
Option A:	n+2
Option B:	n-2

Option C:	n(n-1)/2
Option D:	n(n+1)
26	Which Underwater Wireless Sensor Network architecture combined inter cluster communication, intracluster communication, anchor-buoyant node communication with mobile nodes.
Option A:	1D architecture
Option B:	2D architecture
Option C:	3D architecture
Option D:	4D architecture
27	CoAP provides which of the following requirements?
Option A:	Multicast support and simplicity
Option B:	Low overhead and multicast support
Option C:	Simplicity and low overhead
Option D:	Multicast support, Low overhead and Simplicity
28	Publish command message is sent from _____
Option A:	Only publisher to broker
Option B:	Only broker to publisher
Option C:	Publisher to broker and broker to publisher
Option D:	Server to Client
29	What is the purpose of supply chain management?
Option A:	Increase the production level
Option B:	Manage and integrate supply and demand management
Option C:	Enhance the quality of a product and services
Option D:	Provide satisfaction to the customer
30	Anteena's efficiency is given by the ratio of_____
Option A:	Effective aperture to physical aperture

Option B:	Physical aperture to effective aperture
Option C:	Signal Power to noise power
Option D:	Losses

Descriptive Questions

Q2	**10 marks each**
1	Illustrate the working of Schematic of RFID tag with a neat diagram
2	With a neat diagram briefly describe the Scene analysis and proximity method of localization technique.
3	Write short notes on Apache Storm
4	Illustrate how Energy-efficiency in MAC protocols is maintained. Highlight preamble sampling protocol.
5	Illustrate the working of RFID middleware architecture. Give its importance
6	Classify the tag classes with a neat table and explain the capabilities of each tag.
7	With a neat diagram. briefly highlight the RFID Middleware and its Components.
8	Categorize reader driven anti-collision algorithms with brief explanations of each category.
9	Compare the Apache Spark and Apache storm frameworks with neat diagrams and highlight the difference between the two frameworks
10	List the features of CoAP and explain the different messaging modes of CoAP.
11	Discuss in detail the design and working of Mobile IP (MIP) - IETF communication protocol - IEEE 802.11 - along with its issues.
12	Explain the need of MIP along with its working.
13	What do you mean by Resource in the REST framework? What are the tools used for creating RESTful web services?
14	Explain the working of Network layer handoff in MIP and discuss the working of passive and active scanning in the same.
15	Design an IOT based application for an air pollution monitoring system. Draw block diagram with the required sensors and the IOT platform. Also suggest the type of communication protocol with the justification.
16	List the features of CoAP and explain the different messaging modes of CoAP.
17	Discuss in detail the design and working of Mobile IP (MIP) - IETF communication protocol - IEEE 802.11 - along with its issues.
18	List the conventional-Measurement algorithms that can be used for localization of the mobile object. Discuss any 3 techniques in detail.
19	Explain 10 most emerging technologies in IoT
20	Describe in detail about the four common methods for measuring distance estimation technique with a diagram and its formula.
21	Explain the Types of Wireless Sensor Network?

22	Explain the working principle of UHF RFID System
23	Explain the impact of RFID Technology in SCM and Logistic Application.

Q3	**5 marks each**
1	List and explain the RFID applications?
2	Write short note on RFID Reader RFID Tag RFID Middleware
3	List and explain the components of RFID
4	Write Short note on a. Chef Case b. Case study on Puppet
5	List and explain all three different localization techniques with a neat diagram.
6	Describe the mobility and handover management systems in short.
7	What does NETCONF-YANG mean, explain the device managements of the same.
8	Explain the major components of IoT with suitable diagram in short
9	Explain Friis EM wave propagation equation in free space
10	Explain the Algorithm steps of Triangulation

Sample Questions

Information Technology

Subject Name: User Interaction Design **Semester: VIII**

Multiple Choice Questions

Q1.	**Choose the correct option for following questions. All the Questions carry equal marks**
1.	We study user interaction design to determine how we can make technology-led applications more usable for _____
Option A:	Future Technology
Option B:	End-Users
Option C:	Software Developers
Option D:	Company/IT Industry
2.	Which Interaction type enables users to fly over them and zoom in and out of different parts?
Option A:	Responding
Option B:	Exploring
Option C:	Manipulating
Option D:	Conversing
3.	According to the studies, which one of these would not be found in a good User interaction design?
Option A:	Icons that can have specific meanings
Option B:	A long command line to achieve a function
Option C:	Sounds that convey meanings
Option D:	Common shortcuts, like CTRL+Z for undo
4.	In User Experience/Usability, which is not included?
Option A:	knowledge about Analytics
Option B:	Quality
Option C:	User interaction design
Option D:	Detailed Software Design
5.	Interaction designer helps in bonding with…
Option A:	client and end user
Option B:	coder and manager

Option C:	Developer and client
Option D:	Coder and tester
6.	Out of these, which one is not an interface style?
Option A:	Command line/command prompt
Option B:	Menus
Option C:	Natural Language
Option D:	Voice Recognition
7.	Gaps between user and machines are filled with _____.
Option A:	Software Engineering
Option B:	User communication
Option C:	User Interaction Design
Option D:	Computer Interfaces
8.	Operations like Selecting, dragging, opening, closing, zooming in and out using touch gestures on a smartphone are all examples of which type of interaction
Option A:	Instructing
Option B:	Manipulation
Option C:	Conversing
Option D:	Exploring
9.	According to UID Theory, What is pilot study?
Option A:	study done before the main study
Option B:	done after main study
Option C:	done with main study
Option D:	done after feedback
10.	Find the incorrect statement…
Option A:	Utility refers to the functionality of a system
Option B:	Usability is concerned with adding complexity to the system
Option C:	Usability is concerned with making systems easy to use
Option D:	Poorly designed computer system can be extremely annoying to users
11.	Out of the following options, which one is strictly considered not the principle of effective User-centered design?
Option A:	Organize technology around the user's goals, tasks and abilities.
Option B:	Organize technology around the way users process information and make decisions.
Option C:	Create the design without taking the input from the user.

Option D:	Keep the user in control and aware of the state of the system.
12.	A good way to study User expectations is using....
Option A:	Cognitive walkthrough
Option B:	Affinity Diagram
Option C:	Market Research
Option D:	Contextual Inquiry
13.	A Prototype is important as it provides a ……
Option A:	Mini-Model of existing System
Option B:	Manifestation of a design that allows stakeholders to interact with it and to explore its suitability
Option C:	Working Model of existing System
Option D:	can be applied only to the newly created product
14.	In UID, Waterfall model is basically a _____ model in which each step must be completed before the next step can be started
Option A:	Incremental
Option B:	Linear
Option C:	Iterative
Option D:	Analytical
15.	In UID, User Evaluation is done based on
Option A:	Documents
Option B:	Research Results
Option C:	Feedback
Option D:	Mathematical model
16.	The Design Council of the UK proposed the double-diamond of design which has four phases. Their sequential steps are
Option A:	Define -> Discover -> Develop -> Deliver
Option B:	Discover -> Define -> Develop -> Deliver
Option C:	Discover -> Develop -> Define -> Deliver
Option D:	Define -> Develop -> Discover -> Deliver
17.	Which of the prototyping methods will cost you more?
Option A:	low-fidelity prototype
Option B:	Mixed-fidelity prototype
Option C:	high-fidelity prototype
Option D:	Evolutionary prototyping
18.	Out of the following which method _____ involves watching and

	listening to users
Option A:	Interaction
Option B:	Observation
Option C:	Qualitative research
Option D:	Evaluation
19.	Flat list, Contextual, drop down, Pop-up are styles of ____
Option A:	Menus
Option B:	Icons
Option C:	Windows
Option D:	Mobile Interface
20.	Over use of sound effects and music can make user ____
Option A:	Frustrated
Option B:	Annoyed
Option C:	Sad
Option D:	Happy
21.	User experience goals are largely concerned with explicating the _____ of the user experience
Option A:	Need
Option B:	Mechanism
Option C:	Quality
Option D:	Quantity
22	Which of the following is a desirable aspect of the user experience?
Option A:	Annoying
Option B:	Gimmicky
Option C:	Boring
Option D:	Satisfying
23	Talking, typing, and swimming activities occur at
Option A:	visceral level
Option B:	behavioral level
Option C:	reflective level
Option D:	sensory level
24	Which of the following is most time consuming and difficult data gathering technique?
Option A:	Questionnaires
Option B:	Interviews
Option C:	Naturalistic observation
Option D:	Studying documentation
25	_____ means to employ different data gathering techniques.

Option A:	Triangulation of data
Option B:	Investigator triangulation
Option C:	Triangulation of theories
Option D:	Methodological triangulation
26.	A prototype of a software system developed in Python is an example of
Option A:	Medium-fidelity prototyping
Option B:	Low-fidelity prototyping
Option C:	High-fidelity prototyping
Option D:	Storyboarding prototyping
27	_____ is concerned with how to build and code prototypes and devices using electronics.
Option A:	Physical computing
Option B:	Designing
Option C:	Contextual Inquiry
Option D:	Ethnography
28	_____ enables more people to be studied for longer periods and at the times and locations where observation by researchers is difficult.
Option A:	Walkthrough
Option B:	SRS
Option C:	Usability Testing
Option D:	Living lab
29	Which of the following is not a design principle that allows the user to maintain control?
Option A:	Provide for flexible interaction
Option B:	Allow user interaction to be interrupt-able and undo-able
Option C:	Show technical internals from the casual user
Option D:	Design for direct interaction with objects that appear on the screen
30	Small pieces of cardboard about 3 × 5 inches is a successful and simple way to prototype an interaction which is called as
Option A:	Storyboard
Option B:	Sketch
Option C:	Index Cards
Option D:	System

Descriptive Questions

10 marks each
1) Write a note on 10 heuristics by Nielsen.
2) Define usability and identify the most relevant usability goals for Ecommerce website. Also Justify.
3) Compare the commonly used data recording approaches. Explain the importance of observation in data gathering techniques.
4) Identify the situation where you have faced frustrating interfaces, explain the term Frustrating Interface
5) What is Usability? Explain different usability goals.
6) What is Prototyping? Why is it needed?
7) What care will you take while designing an interface for a blind person?
8) Explain different interview styles
9) What do you mean by low-fidelity prototyping? Explain with examples
10) List various usability inspection methods and summarize cognitive walkthrough techniques.

5 marks each
1) Explain Wireframe with suitable example.
2) Illustrate the concept of heuristic evaluation.
3) Summarize Principles of good UI Design.
4) Write a note on Good Error Messages with examples
5) Explain Experimental Design and its types.
6) Explain Golden rules and Heuristics in Usability.
7) Outline Interface types and describe any five of them.
8) Explain conceptual model based on activity with example.
9) Describe interface metaphor and analogy with examples.
10) Take any E-commerce application. Discuss how we can minimize user memory load in the usability process.

Sample Questions

Information Technology

Subject Name: Knowledge Management **Semester: VIII**

Multiple Choice Questions

	Choose the correct option for following questions. All the Questions carry equal marks
1.	SECI process stands for
Option A:	Socialization Externalization Combination Internalization
Option B:	Socialization Extreme Combination Internalization
Option C:	Security Externalization Combination Internalization
Option D:	Socialization Externalization Combination Imitative
2.	The Conventional system life cycle is Process Driven Documentation-oriented _____ but KMSLC is an incremental process
Option A:	Fast
Option B:	Result oriented
Option C:	Slow
Option D:	Complex
3.	In consensus decision making…….follows a procedure designed to ensure fairness and standardization.
Option A:	Tester
Option B:	DBA
Option C:	User
Option D:	knowledge developer
4.	....is the representation of knowledge so that it can be reused by either an individual or an organization.
Option A:	Data Mining
Option B:	Knowledge Codification
Option C:	Knowledge sharing

Option D:	Knowledge transfer
5.	Conversion from ….. Knowledge involves internalizing.
Option A:	tacit to explicit
Option B:	tacit to tacit
Option C:	explicit to tacit
Option D:	explicit to explicit
6.	In KMSLC, the evolving system is verified and validated from…
Option A:	end of the cycle
Option B:	before the cycle
Option C:	middle of the cycle
Option D:	in starting phase
7.	……..the organization to improve the quality of its relationship management with customers.
Option A:	BI
Option B:	Value chain
Option C:	CRM
Option D:	SCM
8.	In ……. one ongoing team specialized in specific task(s) moves to other locations and performs the same task(s).
Option A:	Data Transfer
Option B:	Collective Sequential Transfer
Option C:	Explicit interterm Transfer
Option D:	Tacit Knowledge Transfer
9.	…….is very useful when it is required to visualize and explore complex systems.
Option A:	Data mining
Option B:	Knowledge sharing

Option C:	Knowledge -based agents
Option D:	Knowledge mapping
10.	……..incorporates the idea of having the right product in the right place, at the right time, in the right condition and at the right price.
Option A:	BI
Option B:	Value chain
Option C:	CRM
Option D:	SCM
11.	Knowledge stored in the form of manuals and formalized policies of the company indicates which of the following characteristics of the knowledge?
Option A:	Expandable
Option B:	Compressible
Option C:	Diffusible
Option D:	Removable
12.	The aim of …… is to bring up the most historical case that matches the present case.
Option A:	Case-based reasoning
Option B:	content base reasoning
Option C:	case-based leveling
Option D:	content base leveling
13.	It follows logical testing and checks the system's behavior in a realistic environment.
Option A:	User Acceptance testing
Option B:	Knowledge testing
Option C:	Software testing
Option D:	Logical testing
14.	… is make sure that the system produces correct results.

Option A:	User Acceptance testing
Option B:	Knowledge testing
Option C:	Software testing
Option D:	Logical testing
15.	… follows logical testing and check the system's behavior in a realistic environment.
Option A:	User Acceptance testing
Option B:	Knowledge testing
Option C:	Software testing
Option D:	Logical testing
16.	All the codification tools and procedure EXCEPT
Option A:	Decision Table
Option B:	Knowledge Map
Option C:	Market Basket Analysis
Option D:	Decision Tree
17.	In terms of knowledge-based systems, …. can be programmed to learn from the user behavior and deduce future behavior for assisting the user.
Option A:	An agent
Option B:	A User
Option C:	Leader
Option D:	A worker
18.	….. simply part of " how knowledge workers conduct their everyday work
Option A:	BI process
Option B:	AI process
Option C:	KM process
Option D:	MIS
19.	Before making the first appointment, the …….. must acquire knowledge about the problem and the expert.

Option A:	Middle manager
Option B:	DBA
Option C:	Tester
Option D:	knowledge developer
20.	Which of the following knowledge can be articulated, codified, and stored in certain media?
Option A:	Explicit knowledge
Option B:	Tacit knowledge
Option C:	Procedural knowledge
Option D:	Declarative knowledge

Descriptive Questions

10 marks each
Briefly explain about Nonaka's Model of Knowledge Creation and Transformation.
Discuss about Decision Making Architecture.
What are the goal of logical testing & User Acceptance Testing?
Explain about Types of knowledge with neat diagram.
Describe about Understanding Knowledge.
Describe about Understanding Knowledge.
Explain about Fuzzy Reasoning and the Quality of Knowledge.
Briefly explain about Knowledge Developer's Skill Sets.
What is mean by Consensus Decision Making? Explain
What is knowledge transfer? Explain different types of knowledge transfer
Summarize the uses and limitations of the internet as they relate to Knowledge management.
Explain about classification tree and association rule.
Explain about the Knowledge Transfer in the E-world.

5 marks each
What is groupware in the E-World?
Difference between Explicit interterm transfer & Tacit Knowledge transfer.
What is mean by knowledge codification?
List out the main issues related to Deployment.
What is the use of Knowledge map?
How would one identify Expertise?
List out the drawback of approaching multiple experts
What is meant Grid and Repertory grid?
What is meant by knowledge capture?
Why it is helpful to view the building of a KM system as a lifecycle?
What is knowledge creation?
Differentiate between internet & an intranet

Sample Questions

Information Technology

Subject Name: Enterprise Resource Planning **Semester:** **VIII**

Multiple Choice Questions

Q1.	**Choose the correct option for following questions. All the Questions carry equal marks**
1.	ERP is a direct outgrowth and extension of _____.
Option A:	Manufacturing Resource Planning
Option B:	MANUFACTURING RESOURCE PLANNING (MRP II)
Option C:	MANAGEMENT RESOURCE PLANNING
Option D:	Sales & Operations Planning
2.	___ expands the logic of MRP into physical distribution system.
Option A:	MRP-II
Option B:	DRP
Option C:	ERP
Option D:	PDM
3.	The main component of material management Module is:
Option A:	Pre purchasing activity
Option B:	Quality planning
Option C:	Equipment tracking
Option D:	Plant maintenance
4.	Full form of ASQC
Option A:	American society for Quality control
Option B:	Australian Society for Quantity control
Option C:	Australian Society for Quality control
Option D:	American society for Quantity control
5.	The main focus of the implementation will therefore be the integration of cross-company value chains using _____ tools.
Option A:	CRM
Option B:	ERP
Option C:	e-business
Option D:	MRP-II
6.	_____ is a key issue in the formation of strategic plans in companies.
Option A:	Computerized.
Option B:	Quantity.
Option C:	Quality.
Option D:	Flexibility.

7.	_____ is the fundamental rethinking and radical redesign of business processes of an organization.
Option A:	CRM
Option B:	ERP
Option C:	e-business
Option D:	BPR
8.	Social network sites such as Facebook and Twitter are considered as _____.
Option A:	Brand-building sites
Option B:	Transactional e-commerce sites
Option C:	Services-orientated relationship-building websites
Option D:	Portal, publisher or media sites
9.	During the _____ session the reengineering must also consider new technologies.
Option A:	Planning
Option B:	Implementing
Option C:	Brainstorming
Option D:	Training
10.	A key marketing technique involves paid placements or sponsored links using _____.
Option A:	Pay per consumer
Option B:	Public promotion clicks
Option C:	Pay per click
Option D:	Personal protocol choice
11.	Collection of activities that takes one or more kinds of input and creates an output valuable to the customer is called as ----- .
Option A:	Business Deal
Option B:	Business Process
Option C:	Business Module
Option D:	Business Standard
12.	------ is fundamental rethinking and radical re-design of business process to achieve improvements in critical, contemporary measures of performance such as cost, quality, service and speed
Option A:	Business Function
Option B:	Business Process Re-engineering
Option C:	Business Analytics
Option D:	Business Collaboration
13.	This allows companies to enter requirements for various types of items.
Option A:	Purchase order
Option B:	Invoice
Option C:	Purchase requisition
Option D:	General ledger
14.	_____provides, Planning, Scheduling, Control of facilities and equipment,

	Equipment lubrication, Component replacement, Safety inspection, Monitoring.
Option A:	Equipment tracking
Option B:	Preventive maintenance control
Option C:	Component tracking
Option D:	Calibration tracking
15.	This is not the Implementation Issue.
Option A:	Project Size
Option B:	Lengthy Implementation Time
Option C:	Unreasonable Deadlines
Option D:	Stage Transaction
16.	Executive committee is headed by _____.
Option A:	End users
Option B:	vendors
Option C:	CIO/CEO
Option D:	consultant
17.	-----are everything that is needed to support the project including people, hardware systems, software systems, technical support and consultants.
Option A:	Resources
Option B:	man power
Option C:	efforts
Option D:	Infrastructure
18.	This is not the factor responsible for the growth of e-Commerce.
Option A:	Internet population
Option B:	Technology
Option C:	User demand
Option D:	Entry of small & medium sized business.
19.	---- is to either lower cost or enhance differentiation between a firm and its competitors.
Option A:	Disaggregation
Option B:	Reaggregation
Option C:	Divide
Option D:	Disconnect
20.	webservers, databases, middleware are part of ----- .
Option A:	e-business design
Option B:	e-business infrastructure
Option C:	e-business infostructure
Option D:	e-business strategy

Descriptive Questions

Q2	**10 marks each**
1	Explain ERP's Finance Module in brief.
2	List and explain the phases of ERP implementation.
3	List the main variants of e-procurement. Also discuss advantages and disadvantages of adopting E-procurement.
4	How is quality cost reduced with the help of ERP? Justify your answer.
5	Discuss risk management in an ERP implementation? Explain the role played by consultant during the implementation of ERP.
6	Explain up-selling and cross-selling with examples.
7	Explain the following terms *i*. Just-in-Time ii) Bill of Material
8	Describe various transition strategies of ERP implementation.
9	With example , explain the types of e-Business types.
10	Explain the various types of risks associated with ERP.
11	Explain the stages of ERP Implementation in brief.
12	Explain the concepts of e-Procurement and discuss the benefits & challenges of e-Procurement.

Q3	**5 marks each**
1	What are the tangible and intangible benefits of ERP?
2	Explain SCM and CRM with respect to ERP.
3	Explain ERP's plant maintenance module.
4	Write short note on: Contribution of ERP to Indian Industrial sector.
5	Explain various transition strategies in ERP implementation.
6	Write a short note on : E-commerce.
7	Categorize the risks of Enterprise Resource Planning.
8	Explain the factors responsible for the growth of E-Commerce.
9	Write short note on Plant Maintenance module .
10	Discuss the direct benefits to an organization due to ERP implementation.
11	Explain the various points to be considered while preparing the Budget for ERP Implementation.
12	Describe the term Customer experience.

Sample Questions

Information Technology

Subject Name: Robotics **Semester: VIll**

Multiple Choice Questions

	Choose the correct option for following questions. All the Questions carry equal marks
1.	Bounded deviation algorithm gives:
Option A:	Optimal path
Option B:	Obstacle free path
Option C:	Shortest path
Option D:	Longest path
2.	In Jacobians matrix of any dimension rows and columns equal to
Option A:	The number of rows equals the number of degrees of freedom and the number of columns is equal to the number of joints of the manipulator
Option B:	The number of rows equals the number of joints of the manipulator equals and the number of columns is equal to the number of degrees of freedom
Option C:	The number of rows equals the number of forces acting on manipulator and the number of columns is equal to the number of degrees of freedom
Option D:	The number of rows equals the number of joints of the manipulator and the number of columns is equal to Torques
3.	In robot, two vectors x and y in Rn are said to be orthogonal to each other
Option A:	If their Dot product is one
Option B:	If their cross product is zero
Option C:	If their Dot product is zero
Option D:	If their cross product is one
4.	In robotics, Inverse kinematics is used for
Option A:	Finding orientation of tool with respective base
Option B:	Mapping from the tool configuration space R6 back to joint space Rn
Option C:	Finding tool configuration space Rn
Option D:	Mapping from joint space Rn to the tool configuration space R6
5.	Humanoid robot can have:
Option A:	Facial expressions
Option B:	Human features
Option C:	Expressions with features
Option D:	Exactly similar to human
6.	The number of movable joints in the base, arm and end effector determines:
Option A:	Flexibility
Option B:	Payload
Option C:	Operational limit
Option D:	Degrees of freedom

7.	What is meant by forward dynamics?
Option A:	Calculation of torques equation
Option B:	Calculation of motion equation if joint torques or end-effector forces are given
Option C:	Calculation of motion equation
Option D:	Calculation of joint torques or end-effector forces if motion variables are given
8.	Industrial robot is generally designed to carry out which coordinate system:
Option A:	Polar
Option B:	Cartesian
Option C:	Cylindrical
Option D:	Spherical
9.	1) head toward goal 2) follow obstacles until you can head toward the goal again 3) continue These are the steps of _____ algorithm
Option A:	BUG '0'
Option B:	BUG 1
Option C:	BUG 2
Option D:	Tangent BUG
10.	Inverse dynamics is used when
Option A:	Calculation of motion equation is required
Option B:	Calculation of torques equation is required
Option C:	motion variables are given to calculate joint torques or end-effector forces
Option D:	Calculation of motion equation if joint torques or end-effector forces are given
11.	_____is a union of curves such that for all start and goal points in Qfree that can be connected by a path.
Option A:	Voronoi cell
Option B:	Roadmap
Option C:	Gradient Descent
Option D:	Voronoi diagram
12.	In which of the following continuous path system is used:
Option A:	Pick and place
Option B:	Loading and unloading
Option C:	Welding
Option D:	Spray painting
13.	This method involves modeling the robot as a particle moving under the influence of a potential field that is determined by the set of obstacles and the target destination.
Option A:	visibility graph

Option B:	Roadmap
Option C:	potential field
Option D:	Cell Decomposition
14.	Visibility graph is a graph of intervisible locations, typically for a set of points and obstacles in the :
Option A:	3D plane
Option B:	2D plane
Option C:	Euclidean plane
Option D:	Surface plane
15.	Which of the following term is used to for defining compressed gases to drive the robot
Option A:	Electric
Option B:	Piezoelectric
Option C:	Hydraulic
Option D:	Pneumatic
16.	Spherical wrist has two joint which are:
Option A:	Coincident
Option B:	Non coincident
Option C:	Similar
Option D:	Dissimilar
17.	Coverage of robot means that determining a path that passes over all points in :
Option A:	2D space
Option B:	3D space
Option C:	Free space
Option D:	Work space
18.	The motion between the two points is known at all times and controllable is called
Option A:	Cartesian space description
Option B:	Joint-space description
Option C:	Degrees of freedom
Option D:	Path
19.	SLAM stands for
Option A:	Simultaneous Localization and Mapping
Option B:	Standard Localization and Mapping
Option C:	Simultaneous Localization and Maps
Option D:	Standard Localization and Maps
20.	In HCTM scaling factor is used as:

Option A:	0
Option B:	1
Option C:	Less than 1
Option D:	Greater than 1

Descriptive Questions

10 marks each
A point P in space is defined as Bp = (5, 3, 4)T relative to frame B which is attached to the origin of the reference frame A and is parallel to it. Apply the following transformations to frame B and find Ap. 1. Rotation of 90 degree about x-axis; then 2. Translate 3 units about y-axis, 6 units about z-axis, and 5 units about x-axis; then 3. Rotate 90 degrees about the z-axis.
Explain the different Template Matching techniques.
Discuss classification of robots based on the geometry of the work envelope.
Explain the bounded deviation algorithm for achieving straight line motion in the tool configuration space with a neat diagram.
Explain DK analysis of a 5 axis Rhino XR-3 robot.
Explain Bug 2 algorithm in detail.
Derive the force-acceleration relationship for the one-degree of freedom system.
Explain the direct kinematic solution of the 3-axis Robot.
Why IK never gives unique solution? Explain TCV.

5 marks each
Frame {2} is rotated with respect to frame {1} about x -axis by an angle of 60 degree . The position of the origin frame {2} as seen from frame {1} is1D2 = [7.0 5.0 7.0]T. Obtain the transformation matrix 1T2, which describes frame {2} relative to frame {1} if 2P= [2.0 4.0 6.0]T.
Explain Object tracking using Discrete Wavelet Transform.
Describe Trapezoidal Decomposition with an example.
Explain IK analysis of a 2-axis robot.
Explain with neat diagram Task Planner System in detail.
Explain DK analysis of a 5 axis Rhino XR-3 robot.
It is desired to have the first joint of a six-axis robot go from an initial angle of 30degree to a final angle of 75degree in 5 seconds. Using a third-order polynomial,calculate the joint angle at 1, 2 3, and 4 seconds.

Describe Denavit -Hartenberg (DH)Algorithm.
Explain Linear Interpolation with parabolic blends and state its advantages.