

# University of Mumbai

## Examination June 2021

Examinations Commencing from 1<sup>st</sup> June 2021

Program: Computer Engineering

Curriculum Scheme: Rev2016

Examination: BE

Semester VIII

Course Code: CSC801 and Course Name: Human Machine Interaction

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Analogical mapping becomes difficult if domains are _____.
Option A:	Semantically different
Option B:	Semantically same
Option C:	Logically different
Option D:	Syntactically different
2.	If a dial of the microwave is not able to fit on the washing machine controller panel, the constraint faced by designer is_____.
Option A:	Aesthetics
Option B:	Physical
Option C:	Ergonomics
Option D:	Environment
3.	Find odd one out regarding fundamental principles of interaction given by Don Norman.
Option A:	Heuristics
Option B:	Signifiers
Option C:	Affordances
Option D:	Mapping
4.	User drags a folder and animation appears on screen showing files moving from one location to another. This is an example of:
Option A:	Error Prevention
Option B:	Visibility of status
Option C:	Simplicity
Option D:	Consistency
5.	People's requirements always take precedence over technical requirement. This defines :
Option A:	Transparency
Option B:	Trade-offs
Option C:	Simplicity
Option D:	Responsiveness
6.	Disadvantage of a Web interface includes_____.
Option A:	Revolutionized Computing
Option B:	Faster Interaction access
Option C:	User control and slow download time

Option D:	Incremental Displays
7.	The remarkable principle of Mobile 2.0 is :
Option A:	Recognising that we are not only the consumers.
Option B:	Recognising that we are the Lords of the Mobile market
Option C:	Recognising that we are in a new age of consumerization
Option D:	Recognising that we are not recognised at all
8.	Which will be appropriate statistical graphics used to show relationships among individual data points in a two-dimensional array?
Option A:	Scatterplots
Option B:	Bar graph
Option C:	Pie chart
Option D:	Flowchart
9.	Browsers use colors that succeed on a variety of browsers and platforms, a palette of__ colors.
Option A:	256
Option B:	216
Option C:	128
Option D:	64
10.	Which of the following is the correct color association?
Option A:	Yellow — Go, OK, clear, vegetation, safety.
Option B:	Red — Stop, fire, hot, danger
Option C:	Green — Cold, water, calm, sky, neutrality.
Option D:	Blue — Caution, slow, test.
11.	_____ appear in one plane on the screen and expand or contract to fill up the display surface, as needed.
Option A:	Cascading windows
Option B:	Tiled windows
Option C:	Overlapped windows
Option D:	Primary window
12.	Android is an example of _____.
Option A:	Open sourced platforms
Option B:	Proprietary platforms
Option C:	Licensed platforms
Option D:	Distributors platforms
13.	As an interface designer, to ensure that emphasized screen elements stand out, which of the following techniques you will avoid?
Option A:	Higher Brightness
Option B:	Underlining
Option C:	Screen Clutter
Option D:	White Space
14.	In web interface, navigation can be done through_____.
Option A:	Menus

Option B:	Lists
Option C:	Links
Option D:	Dialogs
15.	Which of the following refers to context SMS, Mobile websites, Mobile web widgets, Mobile web applications, Native applications?
Option A:	Interface types
Option B:	Mobile application medium types
Option C:	Mobile elements
Option D:	Design strategies
16.	A field of research called _____, a technology can manipulate our sense of touch.
Option A:	Haptics
Option B:	Virtual reality
Option C:	Augmented reality
Option D:	Brain computer interfaces
17.	Which interaction style is based on the user's memory retention ability?
Option A:	Command Language
Option B:	Form fill-in
Option C:	Menu Selection
Option D:	Direct Manipulation
18.	The within-text links should always be placed _____.
Option A:	At the end of the page
Option B:	At the beginning or end of paragraphs or sections of text
Option C:	Within the text
Option D:	Above the text
19.	To reduce screen complexity, Choose correct options.
Option A:	Optimize the number of elements on a screen
Option B:	Do not use any color on a screen
Option C:	Use too many colors on a screen
Option D:	Add more alignment points
20.	A special type of overlapping window that has the windows automatically arranged in a regular progression is _____
Option A:	Tiled Window
Option B:	Cascading Windows
Option C:	Primary Window
Option D:	Secondary Window

<b>Q2.</b>	<b><i>Solve any Two Questions out of Three</i></b> <span style="float: right;"><b><i>10 marks each</i></b></span>
A	<i>Discuss different presentation styles of Windows? State advantages and disadvantages of each style.</i>
B	<i>Explain different phases of the goal directed design process.</i>
C	<i>What are general design principles to be considered for User Interface Design? Also give suitable example for the same.</i>

<b>Q3.</b>	<b><i>Solve any Two Questions out of Three</i></b> <span style="float: right;"><b><i>10 marks each</i></b></span>
A	<i>Design a user interface for a 'Save Water' campaign. Assume appropriate data required for it.</i>
B	<i>Design a user interface of Career Guidance for 12<sup>th</sup> standard students. It should give information about various fields available, eligibility criteria, future scope, fees etc.</i>
C	<i>Draw and explain layers of mobile ecosystem.</i>

**University of Mumbai**  
**Examination June 2021**

**Examinations Commencing from 1<sup>st</sup> June 2021**

Program: **Computer Engineering**

Curriculum Scheme: Rev 2012

Examination: BE Semester VIII

Course Code: CPC801 and Course Name: Data Warehousing and Mining

Time: 2 hour

Max. Marks: 80

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<b>Q.1</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks.</b>
1.	Which of the following is not the type of metadata.
Option A:	Extraction and transformation metadata
Option B:	Operational metadata
Option C:	Loading metadata
Option D:	End user metadata
2.	The star schema is composed of _____ fact table.
Option A:	one
Option B:	two
Option C:	three
Option D:	four
3.	The following key of a data warehouse is not generated by the user but generated by the system.
Option A:	Primary key
Option B:	Foreign key

Option C:	Surrogate key
Option D:	Candidate key
4.	Which Environment permits to update and delete the data.
Option A:	data warehouse
Option B:	data mining
Option C:	operational
Option D:	informational
5.	Which of the following is not a loading technique
Option A:	Append
Option B:	Push
Option C:	Constructive merge
Option D:	Destructive merge
6.	----- is not a real time data extraction method.
Option A:	Database triggers
Option B:	Transaction log
Option C:	Date/Time Stamps
Option D:	Source application
7.	The operation used for reducing a data cube by one or more dimensions.
Option A:	drilling
Option B:	Rolling up
Option C:	dicing
Option D:	slicing

8.	Which of the following statements is FALSE about OLAP?
Option A:	OLAP involves long running transactions that read a lot of data.
Option B:	OLAP involves frequent insert, update and delete operations.
Option C:	OLAP requires data to be in De-Normalized form for optimal processing..
Option D:	OLAP is used for analysis of data to get knowledge.
9.	In KDD process, the next step after data preprocessing is
Option A:	Data mining
Option B:	Data transformation
Option C:	Data evaluation
Option D:	Data selection
10.	Various visualization techniques are used in the ---- step of KDD process.
Option A:	Selection
Option B:	Interpretation
Option C:	Data Mining
Option D:	Transformation
11.	Which attribute has a finite and countably infinite set of values.
Option A:	Normal
Option B:	Discrete
Option C:	ratio
Option D:	Continuous

12	Among the methods stated outliers can be detected by which method ?
Option A:	Binning
Option B:	Regression
Option C:	Clustering
Option D:	Classification
13.	Binning methods are used in data preprocessing for handling which data ?
Option A:	Missing data
Option B:	Noisy data
Option C:	Inconsistent data
Option D:	Redundant data
14	Genomic sequence data is a kind of
Option A:	Transaction data
Option B:	Ordered data
Option C:	Graph data
Option D	Text data
15.	High entropy means that the partitions in classification are
Option A:	Pure
Option B:	Not pure
Option C:	Useful
Option D:	Useless

16.	_____ maps data in predefined groups.
Option A:	Regression
Option B:	Time Series analysis
Option C:	Prediction
Option D:	Classification
17.	Which of the following refers to the problem of finding patterns in the unlabeled data?
Option A:	Supervised learning
Option B:	Hybrid learning
Option C:	Unsupervised learning
Option D:	Reinforcement learning
18.	Which clustering technique requires a merging approach?
Option A:	Partitioned
Option B:	Hierarchical
Option C:	Naive Bayes
Option D:	CLARANS
19.	An itemset whose support is greater than some user-specified minimum support is called
Option A:	Multi itemset
Option B:	Frequent itemset
Option C:	Single itemset

Option D:	Non-frequent itemset
20.	In Improving Apriori by hash table, Hash table minimizes the number of itemset generated in which iteration.?
Option A:	First
Option B:	Third
Option C:	Random
Option D:	Second

<b>Q2 (20 Marks)</b>											
<b>A</b>	<b>Solve any Two 5 marks each</b>										
i	Compare top down vs bottom up approach of data warehousing.										
ii	Draw star schema for Hotel management system.										
iii	Compare OLTP vs OLAP systems.										
<b>B</b>	<b>Solve any One 10 marks each</b>										
i.	Explain K-means clustering algorithm and draw flowchart. Apply k-means clustering by selecting k=3 for the following data: 2,12,67,34,56,23,78,34,28.										
ii	Consider the following transaction database with min support 50% and min confidence 66%.& find the strong association rules.										
	<table border="1"> <thead> <tr> <th>Tid</th> <th>Items</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>A,C,D</td> </tr> <tr> <td>20</td> <td>B,C,E</td> </tr> <tr> <td>30</td> <td>A,B,C,E</td> </tr> <tr> <td>40</td> <td>B,E</td> </tr> </tbody> </table>	Tid	Items	10	A,C,D	20	B,C,E	30	A,B,C,E	40	B,E
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<b>Q3.</b> <b>(20 Marks )</b>																																														
<b>A</b>	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>																																													
i.	Explain different loading mechanisms of ETL.																																													
ii	Explain Metadata with example.																																													
iii	Discuss different steps involved in data preprocessing.																																													
<b>B</b>	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>																																													
i	<p>A data sample is given below.Find whether Patient X has flu using Naive Bayes classifier. If X=(chills=Y, runny nose=N, headache=Mild, fever=Y, flu=?)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>chills</th> <th>runny nose</th> <th>headache</th> <th>fever</th> <th>flu?</th> </tr> </thead> <tbody> <tr><td>Y</td><td>N</td><td>Mild</td><td>Y</td><td>N</td></tr> <tr><td>Y</td><td>Y</td><td>No</td><td>N</td><td>Y</td></tr> <tr><td>Y</td><td>N</td><td>Strong</td><td>Y</td><td>Y</td></tr> <tr><td>N</td><td>Y</td><td>Mild</td><td>Y</td><td>Y</td></tr> <tr><td>N</td><td>N</td><td>No</td><td>N</td><td>N</td></tr> <tr><td>N</td><td>Y</td><td>Strong</td><td>Y</td><td>Y</td></tr> <tr><td>N</td><td>Y</td><td>Strong</td><td>N</td><td>N</td></tr> <tr><td>Y</td><td>Y</td><td>Mild</td><td>Y</td><td>Y</td></tr> </tbody> </table>	chills	runny nose	headache	fever	flu?	Y	N	Mild	Y	N	Y	Y	No	N	Y	Y	N	Strong	Y	Y	N	Y	Mild	Y	Y	N	N	No	N	N	N	Y	Strong	Y	Y	N	Y	Strong	N	N	Y	Y	Mild	Y	Y
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ii	What is regression? Explain different types of regression techniques in detail.																																													

# University of Mumbai

## Examination June 2021

Examinations Commencing from 1<sup>st</sup> June 2021

Program: 1T00728 // B.E. (Computer Engineering)(SEM-VIII)

(Choice Base Credit Grading System)(R2016)

Curriculum Scheme: Rev 2016

Examination: BE Semester VIII

Course Code: CSC802 and Course Name: Distributed Computing

Time: 2 hour

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks. (2 marks each)</b>
1.	A layer which lies between an operating system and the applications running on it is called as -
Option A:	Firmware
Option B:	Hardware
Option C:	Software
Option D:	Middleware
2.	Goals of Distributed system does not include-
Option A:	Resource sharing
Option B:	Access to remote resources
Option C:	Sharing memory space
Option D:	Concurrent process execution
3.	which of the following is not the commonly used semantics for ordered delivery of multicast messages-
Option A:	Absolute ordering
Option B:	Persistent ordering
Option C:	Consistent ordering
Option D:	Casual ordering
4.	The type of transparency that enables resources to be moved while in use without being noticed by users and application is-
Option A:	Location Transparency
Option B:	Migration Transparency
Option C:	Relocation Transparency
Option D:	Access Transparency
5.	A paradigm of multiple autonomous computers, having a private memory, communicating through a computer network, is known as-
Option A:	Distributed computing
Option B:	Cloud computing
Option C:	Centralized computing
Option D:	Parallel computing

6.	Following is not the common mode of communication in Distributed system-
Option A:	RPC
Option B:	RMI
Option C:	Message Passing
Option D:	Shared memory
7.	Following is not the physical clock synchronization algorithm-
Option A:	Lamport's Scalar Clock synchronization
Option B:	Christians clock synchronization
Option C:	Berkley clock synchronization
Option D:	Network time protocol
8.	Distributed Mutual Exclusion Algorithm does not use-
Option A:	Coordinator process
Option B:	Token
Option C:	Logical clock for event ordering
Option D:	Request and Reply message
9.	Vector Timestamp Ordering Algorithm is an example of-
Option A:	Centralized Mutual Exclusion
Option B:	Distributed Mutual Exclusion
Option C:	Physical Clock Synchronization
Option D:	Logical Clock Synchronization
10.	What is fault tolerance in distributed Computing?
Option A:	Ability of system to continue functioning in the event of a complete failure.
Option B:	Ability of system to continue functioning in the event of a partial failure.
Option C:	Ability of system to continue functioning when system is properly working.
Option D:	Ability of distributed system to work in all conditions.
11.	In Task Assignment Approach, we have to-
Option A:	Minimize IPC cost
Option B:	Maximize IPC cost
Option C:	Fix IPC cost
Option D:	Keep constant IPC cost
12.	Backward error recovery requires-
Option A:	Grouping
Option B:	Assurance
Option C:	Check pointing
Option D:	Validation
13.	Which of these consistency models does not use synchronization operations?
Option A:	Sequential
Option B:	Weak
Option C:	Release
Option D:	Entry
14.	Which is not possible in distributed file system?

Option A:	File replication
Option B:	Migration
Option C:	Client interface
Option D:	Remote access
15.	X.500 is a-
Option A:	Directory services
Option B:	Naming services
Option C:	Replication services
Option D:	Consistency services
16.	A DFS is executed as a part of-
Option A:	System specific program
Option B:	Operating system
Option C:	File system
Option D:	Application program
17.	Processes on the remote systems are identified by-
Option A:	Host ID
Option B:	Identifier
Option C:	Host name and identifier
Option D:	Process ID
18.	The function of load-balancing algorithm is-
Option A:	It tries to balance the total system load by transparently transferring the workload from heavily loaded nodes to lightly loaded
Option B:	It helps the process to know the time by simply making a call to the operating system.
Option C:	allows a process to access named entity
Option D:	It synchronizes the clocks
19.	A Multi-threaded Server has following threads-
Option A:	Dispatcher Thread
Option B:	Client Thread
Option C:	Worker Thread
Option D:	Client and Server Thread
20.	Maekawa's Mutual Exclusion Algorithm is based on-
Option A:	Coordinator selection
Option B:	Token
Option C:	Voting
Option D:	Tickets

<b>Q2</b> <b>(20 Marks )</b>	<i>Solve the following questions.</i>
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Write short note on - Group Communication.

ii.	What is replication in distributed system? Explain the advantages of replication.
iii.	Write short note on - Network File System (NFS)
<b>B</b>	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	Explain the Centralized algorithms for Mutual Exclusion in Distributed Systems.
ii.	Describe File caching schemes in brief.

<b>Q3.</b> <b>(20 Marks )</b>	<i>Solve the following questions.</i>
<b>A</b>	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Discuss the Bully algorithm with appropriate example. State its advantages and disadvantages.
ii.	What are the different model of distributed system? Explain.
iii.	How Monotonic Read consistency model is different from Read your Write consistency Model? Support your answer with suitable example.
<b>B</b>	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i	What is the need for Code Migration? Explain the code migration issues in detail.
ii	Define remote procedure call (RPC)? Describe the working of RPC in detail.

**University of Mumbai**  
**Examination 2021 under cluster \_\_ (Lead College: \_\_\_\_\_)**

**Examinations Commencing from 1<sup>st</sup> June 2021**

**Program: Computer Engineering**

Curriculum Scheme: Rev 2012 (Keep the required)

Examination: BE Semester VIII (Keep the Required)

Course Code: CPC802 and Course Name: Human Machine Interaction

Time: 2 hour

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Which of the following cannot be considered as Human Machine Interaction
Option A:	Accepting Response by selecting numbers of the Telephone Key Pad
Option B:	Web Portal to register the user
Option C:	Performing Bank Transactions with Mobile Banking App
Option D:	Sending the written Complaint by Post
2.	Which of the following need to be understood before providing the System
Option A:	Persona
Option B:	Users Qualification
Option C:	Programming Knowledge
Option D:	Ability to invest in software System
3.	Which of the following is reaction of user to the aesthetics of the user Interface without experiencing it
Option A:	Reflective level
Option B:	Visceral Level
Option C:	Behavioral Level
Option D:	Evaluation Level
4.	The Information about Potential or Actual users is identified in _____ of Goal Directed Design
Option A:	Modeling Phase
Option B:	Requirement Gathering Stage
Option C:	Research Phase
Option D:	Support Phase
5.	Software Installation Wizard or Help Document is provided to accommodate which of the following users?
Option A:	Beginner
Option B:	Intermediate user
Option C:	Expert User
Option D:	Researcher
6.	Which of the following is disadvantage of Graphical User Interface
Option A:	Easy to Remember
Option B:	Faster Learning

Option C:	Greater Design Complexity
Option D:	Minimum User Efforts
7.	Which principle of the following tolerate the human Errors and protect user from performing catastrophic Errors, by providing messages
Option A:	Fortify
Option B:	Familiarity
Option C:	Flexibility
Option D:	Forgiveness
8.	Each time when user carry out same action system will yield same result is termed as _____
Option A:	Comprehensibility
Option B:	Clarity
Option C:	Consistency
Option D:	Compatibility
9.	An ability of Human eye to Complete the missing parts of the image is nothing but
Option A:	Closure
Option B:	Continuity
Option C:	Proximity
Option D:	Similarity
10.	Person Remembers his Date of Birth, School Teacher Names and some specific characteristics of people in Contact is an example of
Option A:	Full Term Memory
Option B:	Permanent Memory
Option C:	Long Term Memory
Option D:	Short-Long Term Memory
11.	Frequently used Items that can be selected using one or more keys are called as _____
Option A:	Keyboard accelerators
Option B:	Navigators
Option C:	Commands
Option D:	Drag and Drop
12.	Which of the following is NOT the component of Window
Option A:	Frame
Option B:	Title Bar
Option C:	Scroll Bar
Option D:	Command Prompt
13.	Which of the following menu is derived from higher level menu
Option A:	Pull Down Menu
Option B:	Cascading Menu
Option C:	Pop UP Menu
Option D:	Pie menu

14.	_____ are used to communicate about particular situation or condition
Option A:	Dialog Box
Option B:	Property Description
Option C:	Menu bar
Option D:	Message Box
15.	Which of the following can be used to input Text or alphanumeric Data
Option A:	Light Pen
Option B:	Keyboard
Option C:	Mouse
Option D:	Track Ball
16.	Radio Buttons, Check Boxes, Pallets, List Box are examples of
Option A:	Device Based control
Option B:	Screen Based Control
Option C:	Message Control
Option D:	Presentation control
17.	What is Average response time for web pages
Option A:	6 to 10 Seconds
Option B:	Upto 5 Seconds
Option C:	More than 10 Seconds
Option D:	Up to 2 Seconds
18.	_____ Colour has minimum Wavelength, where as _____ Colour has Maximum Wavelength.
Option A:	Violet, RED
Option B:	RED, Violet
Option C:	Black, White
Option D:	Green, Blue
19.	The Gap between the need of the user and Options which are provided by the Tool or system is nothing but
Option A:	Gulf of Programming
Option B:	Gulf of Execution
Option C:	Gulf of Requirements
Option D:	Gulf of System
20.	Old Brain is _____ Mid Brain is _____ and new Brain is _____
Option A:	Animal Brain Intelligence and Emotional Brain
Option B:	Intelligence, Animal Brain, Emotional Brain
Option C:	Animal Brain, Emotional Brain and Intelligence
Option D:	Emotional Brain , Intelligence and Animal Brain

**subjective/descriptive questions**

<b>Q2</b> <b>(10 Marks Each)</b>	<b>Solve any TWO out of THREE Questions</b>	<b>10 Marks Each</b>
A	Explain Various Types of Menus with appropriate examples	
B	Explain General principles of Graphical User Interface	
C	Explain in detail various Types of Interview and explain them in details.	

<b>Q3</b>	<b>Solve any TWO out of THREE Questions</b>	<b>10 Marks Each</b>
A	Explain Goal Directed Design Process in Detail.	
B	Differentiate between Qualitative and Quantitative Research	
C	Provide description, advantages and Disadvantages of Trackball, JoyStick and Lightpen, Keyboard and Mouse.	

**University of Mumbai**  
**Examination 2021**  
**Examinations Commencing from 1<sup>st</sup> June 2021**

Program: Computer Engineering  
Curriculum Scheme: Rev 2012  
Examination: BE Semester VIII

Course Code: CPC803 and Course Name: Parallel and Distributed Systems

Time: 2-hour

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	In Arithmetic Pipeline, the floating-point addition and subtraction is done in _____ parts.
Option A:	4
Option B:	3
Option C:	5
Option D:	7
2.	The main advantage of multiple bus organization over the single bus is _____
Option A:	Increase in size of the register
Option B:	Better connectivity
Option C:	Decrease in size of register
Option D:	Reduction in the number of cycles for execution
3.	The fastest data access is provided using _____
Option A:	Registers
Option B:	DRAM's
Option C:	SRAM's
Option D:	Caches
4.	The decoded instruction is stored in-----
Option A:	PC
Option B:	IR
Option C:	MDR
Option D:	Registers
5.	Register naming can solve-----
Option A:	RAW hazards only
Option B:	WAR and WAW hazards
Option C:	WAR hazard only
Option D:	RAW, WAR and WAW hazards
6.	Pipelined RAM is also called _____
Option A:	FIFO consistency
Option B:	Sequential consistency
Option C:	Causal consistency
Option D:	Strict consistency

7.	If some combination of instructions cannot be accommodated because of resource conflicts, the processor is to have a
Option A:	Data hazard
Option B:	Pipeline hazard
Option C:	Structural hazard
Option D:	Stall
8.	In case of failure, a new transaction coordinator can be elected by _____
Option A:	Bully algorithm
Option B:	Ring algorithm
Option C:	Both Bully and Ring algorithm
Option D:	Suzuki algorithm
9.	In distributed systems, a logical clock is associated with _____
Option A:	Each instruction
Option B:	Each register
Option C:	Each process
Option D:	Each bus
10.	If a process is executing in its critical section _____
Option A:	Any other process can also execute in its critical section
Option B:	No other process can execute in its critical section
Option C:	One more process can execute in its critical section
Option D:	Two processes can execute in its critical section
11.	In RPC, while a server is processing the call, the client is blocked _____
Option A:	Unless the client sends an asynchronous request to the server
Option B:	Unless the call processing is complete
Option C:	For the complete duration of the connection
Option D:	Unless the server is disconnected
12.	----- determines which process of the selected node needs to be transferred.
Option A:	Location policy
Option B:	Selection policy
Option C:	Transfer Policy
Option D:	Security Policy
13.	The transparency that enables accessing local and remote resources using identical operations is called _____
Option A:	Scaling transparency
Option B:	Concurrency transparency
Option C:	Performance transparency
Option D:	Access transparency
14.	A middleware layer between the stub skeleton and transport.
Option A:	Remote layer
Option B:	Instruction layer
Option C:	Reference layer
Option D:	Remote reference layer

15.	Centralized mutual exclusion algorithm uses ----- messages
Option A:	4
Option B:	1
Option C:	3
Option D:	5
16.	Berkely's and Cristian's clock synchronization methods are type of-----
Option A:	Logical clock synchronization method
Option B:	Physical clock synchronization method
Option C:	Scalar clock synchronization method
Option D:	Vector clock synchronization method
17.	HDFS works in a _____ fashion.
Option A:	Worker-master fashion
Option B:	Master-slave fashion
Option C:	Master-worker fashion
Option D:	Slave-master fashion
18.	The default block size in HDFS is _____.
Option A:	32MB
Option B:	64MB
Option C:	128MB
Option D:	16MB
19.	The type of communication where a sender continues its execution immediately after it has submitted its message for transmission
Option A:	Synchronous communication
Option B:	Asynchronous communication
Option C:	Persistent communication
Option D:	Transient communication
20.	In which file system mapreduce function is used?
Option A:	AFS
Option B:	NFS
Option C:	GFS
Option D:	HDFS

<b>Q2</b>	<b>Solve the questions</b>	
A	<b>Solve any one</b>	<b>10 marks each</b>
i.	Explain data flow computers with example.	
ii.	State different transparencies in the distributed system? Explain any one.	
B	<b>Solve any One</b>	<b>10 marks each</b>
i.	Explain stream-oriented communication with example.	
ii.	Explain various pipeline performance measures.	

<b>Q3</b>	<b>Solve the questions</b>	
A	<b>Solve any One</b>	<b>10 marks each</b>
i.	Explain AFS in detail.	
ii.	What are the different models of middleware?	
B	<b>Solve any One</b>	<b>10 marks each</b>
i.	Explain Berkeley algorithm?	
ii.	Describe Code Migration issues in detail.	

**University of Mumbai**  
**Examination June 2021**

**Examinations Commencing from 1<sup>st</sup> June 2021**

Program: Computer Engineering

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: DLO8012 and Course Name: Natural Language Processing

Time: 2 hour

Max. Marks: 80

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<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Natural language processing is a sub-domain of,
Option A:	Networking
Option B:	Artificial Intelligence
Option C:	Algorithms
Option D:	Databases
2.	Which of this is not an application of NLP?
Option A:	Speech Understanding
Option B:	Chatbot
Option C:	Scanned Image Classification
Option D:	News Clustering
3.	This kind of ambiguity occurs when a sentence is parsed in different ways.
Option A:	Lexical Ambiguity
Option B:	Syntactic Ambiguity
Option C:	Semantic Ambiguity
Option D:	Pragmatic Ambiguity
4.	“Appoint→Appointee” is an example of ----- morphology.
Option A:	Derivational
Option B:	Inflectional
Option C:	Compounding
Option D:	Cliticization
5.	The stemming algorithm is used to,
Option A:	Form complex words from base form
Option B:	Generats the parse tree of a sentence
Option C:	Check meaning of a word in dictionary
Option D:	Reduce inflected form of a word to a single base form
6.	P(dog   the big) is an example of ----- model
Option A:	Unigram
Option B:	Bigram
Option C:	Trigram
Option D:	Quadrigram

7.	Which of this is not true about Morphology?
Option A:	Provides systematic rules for forming new words in a language
Option B:	Provide rules for forming sentences in a language
Option C:	Can be used to verify if a word is legitimate in a language
Option D:	Group words into classes
8.	CFG captures -----
Option A:	Constituency and ordering
Option B:	word meaning
Option C:	relation between words
Option D:	sentence meaning
9.	Which of the following is a Rule based POS tagger?
Option A:	HMM Tagger
Option B:	Ngram Tagger
Option C:	ENGTWOL Tagger
Option D:	Brill Tagger
10.	Syntax analysis concerns with:
Option A:	the way words are built up from smaller meaning bearing units
Option B:	what words mean and how these meanings combine in sentences to form sentence meanings
Option C:	how the immediately preceding sentences affect the interpretation of the next sentence
Option D:	how words are put together to form correct sentences and what structural role each word has
11.	Which of the following is not a sequence labeling technique?
Option A:	Maximum Entropy
Option B:	Context Free Grammar
Option C:	Conditional Random Fields
Option D:	Hidden Markov Model
12.	Which of the following is an example of “hyponym-hypernym” semantic relationship?
Option A:	Car-Vehicle
Option B:	Car-Wheel
Option C:	Wheel-Car
Option D:	Car-Ford
13.	The root form of a word in Wordnet dictionary is called
Option A:	Stem
Option B:	Sense
Option C:	Gloss
Option D:	Lemma
14.	Roughly, Semantic analysis is-----
Option A:	Language Understanding
Option B:	Language Generation
Option C:	Language Preprocessing

Option D:	Language Translation
15.	“All boys love cricket ”. How is this sentence represented in First Order Logic form?
Option A:	$\exists x \text{ boys}(x) \rightarrow \text{love}(x, \text{cricket})$
Option B:	$\forall x \text{ boys}(x) \rightarrow \text{love}(x, \text{cricket})$
Option C:	$\exists x, y \text{ love}(x) \wedge \text{cricket}(y)$
Option D:	$\forall x \text{ boys}(x) \wedge \text{love}(x, \text{cricket})$
16.	Pragmatic refers to
Option A:	Literal meaning
Option B:	Intended meaning
Option C:	Structural meaning
Option D:	Wordnet dictionary meaning
17.	“John bought an Acura Integra today, but the engine seemed noisy.” Which of the following is an Inferrable referent?
Option A:	John
Option B:	Acura
Option C:	engine
Option D:	noisy
18.	Shivaji $\rightarrow$ शिवाजी Is an example of:
Option A:	Translation
Option B:	Transfer
Option C:	Transliteration
Option D:	Generation
19.	In which of the summarization technique, summary contains the sentences from the given document only?
Option A:	Extractive Summarization
Option B:	Abstractive summarization
Option C:	Mixed Summarization
Option D:	Copied summarization
20.	Which of this is not a reference resolution algorithm?
Option A:	Hobb’s Algorithm
Option B:	Lappin and Leass’s Algorithm
Option C:	Centering Algorithm
Option D:	Lesk’s Algorithm

<b>Q2</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Discuss various challenges in processing natural language.
ii.	What is the role of FSA in Morphological analysis?
iii.	What is WordNet? How is “sense” defined in WordNet? Explain with example.
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	What do you mean by stemming? Explain Porter’s stemming algorithm in detail.
ii.	How HMM is used for POS tagging? Explain in detail.

<b>Q3</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Explain use of CFG in Natural Language Processing with suitable example.
ii.	Consider a suitable training data and show the Bigram probability calculation for the same.
iii.	Compare Information Retrieval with Information Extraction system.
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	What is Word Sense Disambiguation? Illustrate with example how Dictionary-based approach identifies correct sense of an ambiguous word.
ii.	Discuss in detail any application considering any Indian regional language of your choice.

# University of Mumbai

## Examination June 2021

Examinations Commencing from 1<sup>st</sup> June 2021

Program: IT01028

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: 52965 and Course Name: Environmental Management

Time: 2 hour

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Which of the following salts is the main cause of permanent hardness of water?
Option A:	Magnesium sulphate
Option B:	Magnesium bicarbonate
Option C:	Magnesium carbonate
Option D:	Potassium sulphate
2.	Which of the following is incorrect, if we only achieve two out of three pillars of Sustainable Development?
Option A:	Social + Economic Sustainability = Equitable
Option B:	Social + Environmental Sustainability = Bearable
Option C:	Economic + Environmental Sustainability = Viable
Option D:	Political + Environmental Sustainability = Bearable
3.	In a food chain animals constitute the:
Option A:	First trophic level
Option B:	Second trophic level
Option C:	Intermediate trophic level
Option D:	Ultimate trophic level
4.	What are the Primary Goals of Sustainability? i. The end of poverty and hunger ii. Better standards of education and healthcare - particularly as it pertains to water quality and better sanitation iii. To bring about a gradual and sometimes catastrophic transformation of the environment iv. Sustainable economic growth while promoting jobs and stronger economies
Option A:	i,ii,iv
Option B:	i,ii,iii
Option C:	i,iii,iv
Option D:	ii,iii,iv
5.	How many percentage of fissionable U-235 occurring in uranium?
Option A:	0.20%
Option B:	0.70%
Option C:	1.00%

Option D:	1.50%
6.	Which of the following is NOT a problem caused by deforestation?
Option A:	Loss of biodiversity
Option B:	Hurting the economy
Option C:	The harming of many indigenous peoples
Option D:	Creating political and social issues
7.	Biodiversity is important for a variety of reasons i. promotes healthier, maintained ecosystems that provide services to us ii. genetic variety of crops, livestock, and marine organisms iii. There are too many animal species on the world iv. ensures that humans are provided with a healthy, nutrient rich diet
Option A:	i,ii,iv
Option B:	i,ii,iii
Option C:	i,iii,iv
Option D:	ii,iii,iv
8.	The reason of Arc blast is
Option A:	Poor contact within electrical wire splices
Option B:	Radio frequency emissions from high-power transmitters
Option C:	Discharge of high electrical current through open air
Option D:	Failure to lock-out and tag-out electrical breakers
9.	Match the following: Earth Spheres      Characteristics a. Hydrosphere    1. It lies above 50 km which coincides with the thermosphere b. Lithosphere    2. Earth's crust and a lower portion of the mantle c. Biosphere      3. Earth's water which exists in both fresh and saline form d. Ionosphere     4. Zone incorporating elements of the hydrosphere, lithosphere and atmosphere
Option A:	a= 1 b=2 c=3 d=4
Option B:	a= 4 b=23 c=2 d=1
Option C:	a= 3 b=2 c=4 d=1
Option D:	a= 1 b=4 c=2 d=3
10.	Plant species with a wide range of genetic distribution evolve into a local population known as
Option A:	Ecotype
Option B:	population
Option C:	Ecosystem
Option D:	Biome
11.	Name the group of species which exploit the abiotic and biotic resources in a similar way?



Option B:	ISO 9001
Option C:	ISO 9002
Option D:	ISO 19011
19.	Within ISO 14001, what do “can” refer to?
Option A:	A requirement
Option B:	A recommendation
Option C:	A permission
Option D:	A possibility or a capability
20.	Which is the most recent pronouncement of the government’s commitment to improving environmental conditions?
Option A:	National Environmental Policy
Option B:	National Water Policy
Option C:	Environment Act
Option D:	Air Policy

<b>Q2</b> <b>(20 Marks)</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	What is meant by disaster? Differentiate between Industrial disaster and Manmade disaster.
ii.	Explain food chain with respect to four major parts. Give examples of food chain
iii.	What are the stages of the EMS lifecycle process?
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	Discuss the consequences of deteriorating air quality on humans, plants and animals.
ii.	What all are components of environment? Define each component.

<b>Q3</b> <b>(20 Marks)</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Explain Global warming. How does it take place?
ii.	Explain in detail what is Environmental Quality Management?
iii.	Give a brief account of Air (P&CP Act).
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	What is meant by habitat? What are its types? Elaborate on them.
ii.	Classify Ecosystems and explain them in detail.

# University of Mumbai

## Examination June 2021

Examinations Commencing from 1<sup>st</sup> June 2021

Program: Mechanical Engineering

Curriculum Scheme: Rev 2016

Examination: BE Semester VIII

Course Code: ILO 8021 and Course Name: Project Management

Time: 2 hour

Max. Marks: 80

<b>Q1. Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>	
1.	Projects are unique and temporary, while operations are
Option A:	Specific And Targeted
Option B:	Ongoing and Permanent with a Repetitive Output
Option C:	Unique And Permanent With Non-Repetitive Outputs
Option D:	Ongoing And Temporary
2	<b>From a practical perspective, what is the most important element of a good project communication management approach?</b>
Option A:	Setup a regular and frequent method for communicating with team members and stakeholders and then follow it.
Option B:	Conduct one-on-one meetings (face-to-face or virtual) with project team members every week.
Option C:	Ensure all project communication between team members and stakeholders goes through the Project Leader so that there is no opportunity for misunderstanding.
Option D:	Telephonic conversation, and Emails
3.	The lowest element in the hierarchical breakdown of the WBS is
Option A:	Work package
Option B:	Responsibility matrix
Option C:	Bottoms up budget
Option D:	Deliverable
4.	Use of PMIS is comparatively less in this process group of project management
Option A:	Initiating
Option B:	Executing
Option C:	Monitoring and Controlling
Option D:	Planning
5.	Which of the following represents the estimated value of the work actually accomplished?
Option A:	Earned value (EV)
Option B:	Planned value (PV)
Option C:	Actual cost (AC)
Option D:	Cost variance (CV)
6.	_____ is the discounting rate, which delivers a Net Present Value equal to zero
Option A:	ARR

Option B:	IRR
Option C:	NPV
Option D:	Profitability Index
7.	Project is stopped due to either its successful or unsuccessful conclusion. Auditing, team on new assignment, assets transferred as per policy is known as :
Option A:	Extinction
Option B:	Addition
Option C:	Integration
Option D:	Starvation
8.	The process of partnering is an attempt to mitigate the risk associated with
Option A:	Networking
Option B:	Uncertainty
Option C:	Risks
Option D:	Subcontracting
9	Project Risk = _____* Consequences of Event. None of the above
Option A:	Loss
Option B:	Outcomes of Event
Option C:	Probability of Event
Option D:	Profit
10.	What is the correct sequence of stages in group development
Option A:	Forming, Norming, Performing, Storming, Adjourning
Option B:	Forming, Norming, Storming, Performing , Adjourning
Option C:	Forming, Storming, Norming, Performing , Adjourning
Option D:	Forming, Performing, Norming, Storming , Adjourning
11.	An activity has an optimistic time 11 days, a most likely time of 15 days, and a pessimistic time of 23 days. What is its variance?
Option A:	15.6
Option B:	16.33
Option C:	4
Option D:	2
12.	What are the determinants of project success as per Iron Triangle?
Option A:	Resources, Cost, Performance
Option B:	Knowledge, Time, Resources
Option C:	Cost, Skills, Performance
Option D:	Cost, Performance, Time
13	What is the correct sequence for the following processes of Project Risk Management: 1. Plan Risk Management; 2. Perform Qualitative Risk Analysis; 3. Identify Risks; 4. Perform Quantitative Risk Analysis; 5. Plan Risk Responses;

	6. Control Risks
Option A:	1-2-3-4-5-6
Option B:	1-3-2-4-5-6
Option C:	1-3-4-2-5-6
Option D:	3-1-2-4-5-6
14.	Arrange the following elements of the Project Cycle in the right order: A- Project Appraisal B- Feasibility Analysis C- Negotiation D- Project Selection
Option A:	A-B-C-D
Option B:	B-A-C-D
Option C:	B-A-D-C
Option D:	B-C-A-D
15.	An activity takes 4 days to complete at a normal cost of Rs.500. If it is possible to complete the activity in 2 days with an additional cost of Rs.700, what is the incremental cost of activity.
Option A:	100
Option B:	125
Option C:	1000
Option D:	250
16.	In PERT/CPM, slack time is :
Option A:	Is the amount of time a task may be delayed without changing the overall project completion time
Option B:	Is the latest time an activity can be started without delaying the entire project
Option C:	Is a task or subproject that must be completed
Option D:	Marks the start or completion of a task
17.	The review of the successes and the mistakes is normally held during _____ phase.
Option A:	Initiation
Option B:	Planning
Option C:	Execution
Option D:	Closure
18.	Cost performance index value is less than 1 indicates :
Option A:	Cost under run
Option B:	Cost overrun
Option C:	Cost average
Option D:	Cost Variance
19.	Why does scope creep cause a delay on a project?
Option A:	The project resources are doing the scope creep work and not the originally planned work, causing the originally planned tasks to be delayed.
Option B:	Project work is postponed until the magnitude of scope creep is defined.
Option C:	Scope creep causes task estimates to increase.
Option D:	Scope creep causes cost estimates to increase.

20.	Goldratt's critical chain method is based on																																																							
Option A:	Theory of constraints																																																							
Option B:	Critical path method																																																							
Option C:	Supply of raw material in time																																																							
Option D:	Use of concurrent engineering principle																																																							
<b>Q.2</b>	<b>Solve any Four out of Six . 5 Marks Each</b>																																																							
A	What are the knowledge areas and process groups in Project Management as per PMI?																																																							
B	Explain various project selection models.																																																							
C	What is Goldratt's critical chain method?																																																							
D	Determine the net present value for a project that costs Rs. 2,40,000/- would yield after tax cash flows as follows. Assume cost of capital is 10% <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Year</th> <th>CASH Flow in Rs.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>25,000</td> </tr> <tr> <td>2</td> <td>75,000</td> </tr> <tr> <td>3</td> <td>80,000</td> </tr> <tr> <td>4</td> <td>100,000</td> </tr> </tbody> </table> <p>Comment on feasibility of project based on NPV</p>	Year	CASH Flow in Rs.	1	25,000	2	75,000	3	80,000	4	100,000																																													
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E	Explain importance of ethics in projects.																																																							
F	What are the different ways of closing the project?																																																							
<b>Q.3</b>	<b>Solve any Two Questions out of Three 10 Marks Each</b>																																																							
A	<p>a. A consulting project has an actual cost of Rs. 45000, Scheduled cost Rs. 35000, and value of completed work is Rs. 40000. Find the Schedule and Cost Variance. Also find SPI and CPI.</p> <p>b. What is a contract? Explain different types of contracts.</p>																																																							
B	<p>R &amp; D project has a list of tasks to be performed whose time estimates are given in the as follows.</p> <p style="text-align: center;"><b>Table-1-Time Estimation for R &amp;D Project</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Activity <i>i</i>      <i>j</i></th> <th>Activity Time</th> <th><b>t<sub>o</sub></b></th> <th><b>t<sub>m</sub></b></th> <th><b>t<sub>p</sub></b></th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>A</td> <td>4</td> <td>6</td> <td>8</td> </tr> <tr> <td>1-3</td> <td>B</td> <td>2</td> <td>3</td> <td>10</td> </tr> <tr> <td>1-4</td> <td>C</td> <td>6</td> <td>8</td> <td>16</td> </tr> <tr> <td>2-4</td> <td>D</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>3-4</td> <td>E</td> <td>6</td> <td>7</td> <td>8</td> </tr> <tr> <td>3-5</td> <td>F</td> <td>6</td> <td>7</td> <td>14</td> </tr> <tr> <td>4-6</td> <td>G</td> <td>3</td> <td>5</td> <td>7</td> </tr> <tr> <td>4-7</td> <td>H</td> <td>4</td> <td>11</td> <td>12</td> </tr> <tr> <td>5-7</td> <td>I</td> <td>2</td> <td>4</td> <td>6</td> </tr> <tr> <td>6-7</td> <td>J</td> <td>2</td> <td>9</td> <td>10</td> </tr> </tbody> </table> <p>a. Draw the project network.  b. Find the critical path.  c. Find the probability that the project is completed in 19 days. If the probability is less than 20%, find the probability of completing it in 24 days.</p>	Activity <i>i</i> <i>j</i>	Activity Time	<b>t<sub>o</sub></b>	<b>t<sub>m</sub></b>	<b>t<sub>p</sub></b>	1-2	A	4	6	8	1-3	B	2	3	10	1-4	C	6	8	16	2-4	D	1	2	3	3-4	E	6	7	8	3-5	F	6	7	14	4-6	G	3	5	7	4-7	H	4	11	12	5-7	I	2	4	6	6-7	J	2	9	10
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C	<p>Write short notes on.</p> <p>a. Work Breakdown Structure  b. Project Procurement Management,</p>																																																							

