University of Mumbai
Examination June 2021
Examinations Commencing from 1st June 2021
Program: Information Technology
Curriculum Scheme: Rev2016
Examination: TE   Semester VI
Course Code: ITDLO6021 and Course Name: Advanced Internet Programming

Time: 2 hour   Max. Marks: 80

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Often search engines can not see the hyperlinks in?
Option A:	Image text
Option B:	Image tag
Option C:	Flash content
Option D:	HTML text
2.	Which of the following is used to measure the gap between two visits by the same visitor on a website?
Option A:	Recency
Option B:	Bounce Rate
Option C:	Clickstream
Option D:	Conversion rate
3.	In web services, _____ helps in publishing, describing and discovering.
Option A:	XML
Option B:	SOAP
Option C:	UDDI
Option D:	WSDL
4.	Which of the following is not a response-header field ?
Option A:	responseText
Option B:	Content-Type
Option C:	Expires
Option D:	response body
5.	The RDF triplet, object-attribute -value known as -------
Option A:	Triple
Option B:	Statement
Option C:	Sentence
Option D:	Scheme
6.	As per search engine, if A page has 150 links, B has 200 links and C has 201 links, then which out of A, B, C can be treated as link authoritative pages?
Option A:	Page C because it has most links
Option B:	Page B and C, as they have almost equal and most links on page

Option C:	Page A as it has very few links on the page
Option D:	Any of the page A, B, C as per link neighbourhood
7.	A way to show where a user is in the navigation hierarchy, is termed as?
Option A:	Breadcrumb navigation
Option B:	Horizontal navigation
Option C:	Tree navigation
Option D:	Vertical navigation
8.	Which is not part of RDF terms?
Option A:	Literals
Option B:	RDF URI
Option C:	String
Option D:	Blank Nodes
9.	Which attribute of <xsl:template> element is used to define which node is eligible for processing?
Option A:	match
Option B:	name
Option C:	element
Option D:	node
10.	A website where the same keyword is multiple times targeted in the title and the header tags of the pages, is called as?
Option A:	Keyword bombing
Option B:	Keyword cannibalization
Option C:	Keyword exhausting
Option D:	Keyword overuse
11.	Which tool is most commonly used for web analytics and is free of charge?
Option A:	Google Analytics
Option B:	Radian6
Option C:	AlteranSM2
Option D:	Social Radar
12.	Google search engine will result in "weather" of whom, if searched in the incognito tab of Google Chrome?
Option A:	City where user is searching from
Option B:	Default city, New York, US
Option C:	Last city as known to browser based on previous activity
Option D:	Random city
13.	Rule Interchange Format is a framework that designs ----------.
Option A:	Collection of rules
Option B:	Collection of dialects
Option C:	Collection of syntaxes
Option D:	Collection of formats

14.	Identify the right syntax to create JSON objects.

Option A:	object geeta = {
	"age" : "24":
	"contactno" : "9900228855":
	"gender" : "female"
	};

Option B:	object geeta = {
	"age" : "24";
	"contactno" : "9900228855";
	"gender" : "female"
	};

Option C:	var geeta = {
	"age" : "24"
	"contactno" : "9900228855"
	"gender" : "female"
	};

Option D:	var geeta = {
	"age" : "24",
	"contactno" : "9900228855",
	"gender" : "female"
	};

15.	Which of the following is not a framework for single page web applications?
Option A:	AngularJS
Option B:	UltraJS
Option C:	ReactJS
Option D:	Backbone.JS
16.	AJAX is not used in combination with this technology
Option A:	Javascript
Option B:	HTML
Option C:	PHP
Option D:	Flash
17.	What is a lightweight encapsulation format that is specified by WS-Attachments, as the attachment description format?
Option A:	JSON
Option B:	XML
Option C:	DIME
Option D:	MIME
18.	Which of the following is not a feature of Web 3.0?
Option A:	Semantic Web
Option B:	Artificial intelligence
Option C:	3D Graphics
Option D:	Multiple Searches

19.	Which of the following statements are true with respect to Javascript and AJAX?
Option A:	Javascript is a collection of technologies like JSON, XML, HTML and CSS.
Option B:	Ajax is combination of XML and HTML
Option C:	Ajax used a lot of bandwidth as compared to Javascript
Option D:	Javascript requests the server and waits for the response, whereas AJAX sends a request to the server and doesn't wait for the response.
20.	Results pooled and ranked from primary indices of the web are called as?
Option A:	PPC results
Option B:	Organic results
Option C:	Vertical results
Option D:	Horizontal results

Q2 (20 Marks)	Solve any Two Questions out of Three 10 marks each
A	Explain the various sections outlined in the Google search engine results, if searched for the keyword, such as "Black Shoes". Also explain how the web crawler/ web spider helps the search engine in order to generate the result pages.
B	Upon calling the SEO to improve the existing website of an organisation, the SEO audit of the existing website considers which elements of the website for improvisation.
C	What is a Web Service? Describe the 2 popular ways of accessing a web service and also compare them.

Q3 (20 Marks)	Solve any Two Questions out of Three 10 marks each
A	What is AJAX? List the advantages of AJAX and also what are the security concerns with AJAX and how can they be handled?
B	Discuss Web analytics 2.0. Explain Clickstream analysis in detail.
C	What are the challenges for Semantic Web?

Course Code: ITDLO6021 and Course Name: Advanced Internet Programming

Answer Key

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	A
Q3.	C
Q4	A
Q5	B
Q6	D
Q7	A
Q8.	C
Q9.	A
Q10.	B
Q11.	A
Q12.	C
Q13.	B
Q14.	D
Q15.	B
Q16.	D
Q17.	C
Q18.	D
Q19.	D
Q20.	B

University of Mumbai
Examination June 2021
Examinations Commencing from 1st June 2021
Program: **Information Technology**
Curriculum Scheme: Rev2016
Examination: TE Semester VI
Course Code: ITC603 and Course Name: Cloud Computing and Services

Time: 2 hour   Max. Marks: 80

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	The attempt to categorize the cloud network based on four factors namely location, Ownership, Security, Sourcing has lead to which model?
Option A:	Cloud NIST model
Option B:	Deployment Model
Option C:	Cloud Cube Model
Option D:	Service Models
2.	If the application, data, middleware and runtime executions are managed by the customer then you have purchased a _____ as a service in cloud .
Option A:	Software as a Service
Option B:	Data as a Service
Option C:	Platform as a Service
Option D:	Infrastructure as a Service
3.	In the Cloud Architecture a layer that provides the basic software management for the physical servers and can be implemented as an operating system, hypervisor and virtual machine monitor and/or clustering middleware.
Option A:	Software Kernel
Option B:	Cloud Application Layer
Option C:	Cloud Software Infrastructure Layer
Option D:	Hardware and Firmware
4.	Which of the following is not the advantage of Virtualization?
Option A:	Cost Reduction
Option B:	Efficient resource utilization
Option C:	Increased flexibility
Option D:	Upfront Investments
5.	Which of the following is very poor in ISA Level virtualization?
Option A:	performance
Option B:	application flexibility
Option C:	implementation complexity
Option D:	application isolation

6.	Which technique is used to optimize performance of virtual memory ?
Option A:	Accumulator
Option B:	Loader
Option C:	Translation Look aside Buffer
Option D:	Emulator
7.	How can confidentiality of information be achieved?
Option A:	By ensuring enough resources to make information available for all users
Option B:	By preventing unauthorized changes
Option C:	By regularly backing up the information
Option D:	By restricting access to information
8.	Which three OpenStack components does Nova need to function?
Option A:	Neutron, Horizon and Glance
Option B:	Glance, Keystone and Horizon
Option C:	Keystone, Glance and Neutron
Option D:	Cinder, Swift and Kolla
9.	What is Google App Engine (GAE) for?
Option A:	GAE is for detecting malicious apps
Option B:	GAE is for running web applications on Google infrastructure
Option C:	GAE replaces the modern computer
Option D:	GAE is a system to develop hardware interfaces
10.	Challenges in Mobile Cloud Computing are
Option A:	High bandwidth, Heterogeneity
Option B:	Service availability, Homogeneity
Option C:	Low bandwidth, Heterogeneity
Option D:	High bandwidth, Service unavailability
11.	_____ is the medium for storing objects in S3
Option A:	Vault
Option B:	SSD
Option C:	Bucket
Option D:	HDD
12.	An Elastic IP Addresses (EIP) is an _____that you can assign to your account from the pool and can also return it to the pool.
Option A:	static private IP address
Option B:	static public IP address
Option C:	dynamic public IP address
Option D:	dynamic private IP address
13.	_____is very low-price online file storage web service which offer secure, flexible and durable storage for online data backup and archiving.
Option A:	Amazon Glacier
Option B:	Amazon S3
Option C:	Amazon EBS
Option D:	Amazon ELB

14.	CSG acts as a bridge between
Option A:	Local applications and cloud-based storage
Option B:	Remote applications and cloud-based storage
Option C:	Local applications and local storage
Option D:	Remote applications and remote storage
15.	Keystone does not provide
Option A:	Public/private key management
Option B:	Token and password-based authentication
Option C:	RBAC based authorization
Option D:	Secure protocols
16.	Which of the following is not a function of SWIFT
Option A:	Provisioning and deploying VMs
Option B:	Storing objects securely
Option C:	Backup and archival
Option D:	Extreme scalability
17.	AWS console is analogous to _____ service of Openstack
Option A:	Neutron
Option B:	Nova
Option C:	Horizon
Option D:	Glance
18.	The CDMI standard is developed by
Option A:	ISOs Storage Web Group
Option B:	SNIA Cloud Storage Technical Web Group
Option C:	NISTs Storage Technical Web Group
Option D:	IEEE Cloud Storage Web Group
19.	When is cloud recovery possible
Option A:	when only source is in cloud
Option B:	when only recovery site is in cloud
Option C:	when both source and recovery sites are in cloud
Option D:	when both source and recovery sites are not in cloud
20.	Virtual storage and virtual machines are provided by
Option A:	PaaS
Option B:	IaaS
Option C:	CaaS
Option D:	SaaS

Q2	**Solve any Two Questions out of Three**	**10 marks each**

A	Explain the NIST cloud model.
B	Explain Xen virtualization with the help of its architecture.
C	Compare and contrast between AWS S3, EBS and Glaciers.

Q3.	**Solve any Two Questions out of Three**	**10 marks each**
A	Write a Short note on Cloud data management interface.	
B	Explain Google File System in detail.	
C	Explain Disaster recovery as a service in detail.	

Course Code: ITC603 and Course Name: Cloud Computing and Services
Answer Key

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	D
Q3.	A
Q4	D
Q5	A
Q6	C
Q7	D
Q8.	C
Q9.	B
Q10.	C
Q11.	C
Q12.	B
Q13.	A
Q14.	A
Q15.	D
Q16.	A
Q17.	C
Q18.	B
Q19.	C
Q20.	A

University of Mumbai
Examination 2021 under cluster 7
Examinations Commencing from 1ˢᵗ June 2021
Program: **Information Technology**
Curriculum Scheme: 2016
Examination: TE Semester VI
Course Code: ITDLO6023 and Course Name: Digital Forensic

Time: 2 hour   Max. Marks: 80
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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Most widely used command for listing open ports on unix system is
Option A:	Netstat
Option B:	w-command
Option C:	1s command
Option D:	ps command
2.	_____ is a popular tool used for discovering networks as well as in security auditing.
Option A:	Ettercap
Option B:	Metasploit
Option C:	Nmap
Option D:	Burp Suit
3.	Which of the following deals with network intrusion detection and real-time traffic analysis?
Option A:	John the Ripper
Option B:	LophtCrack
Option C:	Snort
Option D:	Nessus

4.	One of the most common approaches to validating forensic software is to:
Option A:	Examine the source code
Option B:	Ask others if the software is reliable
Option C:	Compare results of multiple tools for discrepancies
Option D:	Computer forensic tool testing projects
5.	Encase tool is used for
Option A:	Create the image of hard disk drive
Option B:	To generate technical report
Option C:	To see which are the system are still alive in network
Option D:	To create report in PDF file
6.	Which of them is not an appropriate method of router security
Option A:	Unused ports should be blocked
Option B:	Unused interfaces and services should be disabled
Option C:	Routing protocol needs to be programmed by security experts
Option D:	Packet filtering needs to be enabled
7.	_____ is the method for keeping sensitive information in email communication & accounts secure against unofficial access, loss, or compromise.
Option A:	Email security
Option B:	Email hacking
Option C:	Email protection
Option D:	Email safeguarding
8.	The overall I/O rate in RAID level 4 is _____
Option A:	low
Option B:	very low

Option C:	High
Option D:	MEDIUM
9.	Which of the following will not help in preserving email security?
Option A:	Create a strong password
Option B:	Connect your email to a phone number
Option C:	Use two-factor authentication for password verification and login
Option D:	Click on unknown links and sites
10.	The first tool for making forensic copies of computer storage media was:
Option A:	EnCase
Option B:	Expert Witness
Option C:	dd
Option D:	Safeback
11.	which of the following is not the volatile data for live response
Option A:	System date and time
Option B:	USB
Option C:	Currently running process
Option D:	Currently logged on users
12.	Which command is used to display current running process
Option A:	psloogedon
Option B:	plist
Option C:	ps
Option D:	pslog

13.	Which phase involves data collection and data analysis.
Option A:	Reporting
Option B:	Resolution
Option C:	Investigation
Option D:	Initial response
14.	Which is not the variations of live response
Option A:	Initial live response
Option B:	Pre-initial live response
Option C:	In-depth response
Option D:	Full live response
15.	During data collection, what is the standard way of obtaining remote logs from a centralized host
Option A:	chklog
Option B:	ChkLog
Option C:	logs
Option D:	SYSLOG
16.	A free tool that is used to enlist listening ports for all the processes.
Option A:	listen
Option B:	listp
Option C:	fport
Option D:	flport
17.	How many major components are there in incident response methodology
Option A:	9
Option B:	3

Option C:	7
Option D:	5
18.	Which is not a step in preparing the response toolkit
Option A:	Searching information
Option B:	Tag a response toolkit media
Option C:	Check the dependencies
Option D:	creating checksum
19.	which of the following is not a part of CSIRT team:
Option A:	Security analysts
Option B:	Lead investigator
Option C:	Information Lead
Option D:	HR/legal representation
20.	Which is the last component/stage of incident response methodoly
Option A:	Resolution
Option B:	Data analysis
Option C:	Reporting
Option D:	Initial response

Q2)	Solve any Two Questions out of Three 10 marks each
A	*Explain in detail collecting volatile & non-volatile data in unix-based systems*
B	*Explain volatile data collection procedure in window systems.*
C	*Explain how to use router as a forensic tools.*

Q3)	Solve any Two Questions out of Three 10 marks each
A	*Explain RAID techniques in detail.*

B	*State the rule of digital evidence along with its characteristics.*
C	*Explain guidelines for incident report writing.Give one report writing examples..*

Course Code:ITDLO6023 and Course Name: Digital Forensic
Answer Key

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	C
Q3.	C
Q4	C
Q5	A
Q6	C
Q7	A
Q8.	C
Q9.	D
Q10.	C
Q11.	B
Q12.	C
Q13.	C
Q14.	B
Q15.	D
Q16.	C
Q17.	C
Q18.	A
Q19.	C
Q20.	C

Program: Information Technology
Curriculum Scheme: Rev 2016
Examination: Third Year Semester VI
Course Code: ITC602   and   Course Name: Data Mining and Business Intelligence
Time: 2-hour   Max. Marks: 80
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Q1.	Which of the following is the data mining task?
Option A:	Registering for an online course
Option B:	online money payment through a bank
Option C:	predicting if a student will pass an online course
Option D:	downloading the course certificate from the website
Q2.	Which of the following is not a preprocessing task?
Option A:	Data cleaning
Option B:	Data reduction
Option C:	Data integration
Option D:	Data manipulation
Q3.	Which is not a Data visualization technique?
Option A:	Pictures
Option B:	Graphs
Option C:	charts
Option D:	information graphics
Q4.	Which of the following is NOT example of ordinal attributes?
Option A:	Zip codes
Option B:	Ordered numbers
Option C:	Movie ratings
Option D:	Military ranks
Q5.	Calculate the median {1,2,2,2,3,4,5,6,7,8,9,9}
Option A:	2
Option B:	4
Option C:	8
Option D:	4.5
Q6.	Use smoothing by bin means to smooth (25,32,33)
Option A:	30,30,30
Option B:	32,32,32
Option C:	33,33,33
Option D:	25,25,25
Q7.	The _____ are the attributes of interest describing the tuple in Linear regression
Option A:	Response Variable
Option B:	Slope
Option C:	Coefficients
Option D:	Predictor Variables

Q8.	Height, width comes under which type of data?
Option A:	Finite
Option B:	Discrete
Option C:	Infinite
Option D:	Continuous
Q9.	difference between supervised learning and unsupervised learning is given by
Option A:	unlike unsupervised learning, supervised learning can be used to detect outliers
Option B:	no difference
Option C:	unlike supervised leaning, unsupervised learning can form new classes
Option D:	unlike unsupervised learning, supervised learning needs labeled data
Q10.	Following algorithm is density-based clustering algorithm
Option A:	K-Medoids
Option B:	OPTICS
Option C:	DIANA
Option D:	BIRCH
Q11.	The process of hierarchical clustering is represented by-
Option A:	Decision Tree
Option B:	Dendrogram
Option C:	Flowchart
Option D:	Hierarchical model
Q12.	K medoids is an example of which type of clustering method?
Option A:	Hierarchical
Option B:	Density Based
Option C:	Partition
Option D:	Combination
Q13.	Suppose while performing DBSCAN we randomly choose a point which has less than MinPts number of points in its neighborhood. Which among the following is true for such a point?
Option A:	It is treated as noise, and not considered further in the algorithm
Option B:	It becomes part of its own cluster
Option C:	Depending upon other points, it may later turn out to be a core point
Option D:	Depending upon other points, it may be density connected to other points
Q14.	Which of the following methods explore structures in the data
Option A:	Contextual Outlier Detection and Collective Outlier Detection
Option B:	Classification Outlier Detection and Clustering Outlier Detection
Option C:	Parametric Outlier Detection and Non-Parametric Outlier Detection
Option D:	Distance based Outlier Detection and Density based Outlier Detection
Q15.	The frequency of occurrence of an itemset is also known as _____
Option A:	Support count
Option B:	Confidence
Option C:	Support
Option D:	Lift

Q16.	What is association rule mining?
Option A:	Same as frequent itemset mining
Option B:	Finding of strong association rules using frequent itemsets
Option C:	Using association to analyze correlation rules d.
Option D:	Finding classification rules using frequent itemsets
Q17.	Which of the following is the application of frequent itemset mining?
Option A:	Real time analysis
Option B:	Fraud analysis
Option C:	Network analysis
Option D:	Market Basket Analysis
Q18.	What do you mean by support(X-> Y) is___
Option A:	The number of transactions where XUY appears divided by the total number of transactions.
Option B:	Total number of transactions containing X or Y
Option C:	Total number of transactions containing X and Y
Option D:	Total number of transactions containing X but not Y
Q19.	Which of the following is not considered as ethical in business Intelligence
Option A:	Using customer data for better customer service
Option B:	Giving customer data to other companies for financial gain
Option C:	Accessing the users' data with for data mining
Option D:	Accessing user's location to give location specific ads n users mobile phone
Q20.	Decisions are _____ when they affect the entire organization or at least a substantial part of it for a long period of time.
Option A:	Operational
Option B:	Technical
Option C:	Tactical
Option D:	Strategic

Q2.	**Solve any Two Questions out of Three**	**10 marks**
A	What is data Preprocessing? Explain different methods	
B	What is clustering? The data for clustering is {2,4,10,12,3,20,11,25} where k=2 cluster the given data using k-means algorithm	

C	Explain multidimensional and multi-level association rules with example

Q3	**Solve any Two Questions out of Three**	**10 marks**
A	Define business intelligence with examples	
B	Partition the given data into 4 bins using binning method and perform smoothing by bin mean, by median, by bin boundaries Data: 11,13,13,15,15,16,19,20,20,21,21,22,23,24,30,40,45,45,45,71,72,73,75	
C	What is an outlier? Describe methods that can be used for outlier analysis	

Course Code: ITC602   and   Course Name: Data Mining and Business Intelligence

Answer key

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	D
Q3.	A
Q4	A
Q5	D
Q6	A
Q7	D
Q8.	D
Q9.	D
Q10.	B
Q11.	B
Q12.	C
Q13.	D
Q14.	A
Q15.	A
Q16.	B
Q17.	D
Q18.	A
Q19.	B
Q20.	D

University of Mumbai
Examination June 2021
Examinations Commencing from 1ˢᵗ June 2021
Program: **BE information technology engineering**
Curriculum Scheme: Rev2016
Examination: Third Year Semester VI
Course Code: ITDLO6025 and Course Name: Green IT

Time: 2 hour   Max. Marks: 80

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	Strategic planning starts with a prior mission and vision and leads to the formulation of _____ .
Option A:	Strategy and direction
Option B:	Requirement and analysis
Option C:	Objectives and Goals
Option D:	Planning and Thinking
Q2.	Which one is the fourth level of Enterprise architecture planning levels?
Option A:	Getting started
Option B:	Where we are today
Option C:	Future vision
Option D:	How to get There
Q3.	Risk assessment involves how many steps?
Option A:	4
Option B:	5
Option C:	7
Option D:	6
Q4	RoHS stands for _____ .
Option A:	Restrictions of Hazardous Substances
Option B:	Restrict of Hazard Substance
Option C:	Reaching of Hazardous Social
Option D:	Restrictions of Hardware Substances
Q5.	_____ information systems are focused at the operational level of an organization and deal with real-time and very short-term information requirements.
Option A:	transaction processing system
Option B:	decision support system
Option C:	management information system
Option D:	executive support system
Q6.	_____ on the needs and requirements of upper management and aid their focus on strategic management of the organization.
Option A:	transaction processing system
Option B:	decision support system

Option C:	management information system
Option D:	executive support system
Q7.	Which of the following identify which is not a Environmental Information Technology Standard?
Option A:	Electronic Product Environmental Assessment Tool
Option B:	Energy Star
Option C:	IEEE Standard 802.3az-2010
Option D:	ISO 9001:2018
Q8.	"Not printing on paper whenever possible" is an example of _____ Green IT strategy, with respect to return on investment.
Option A:	Operational (immediate)
Option B:	Tactical (within one year)
Option C:	Strategic-initial (within three years)
Option D:	Strategic (within five years)
Q9.	"Green IT strategies are formulated and approved by the board for implementing green policies, using software along with metrics " is an example of _____ Green IT strategy, with respect to return on investment.
Option A:	Operational (immediate)
Option B:	Tactical (within one year)
Option C:	Strategic-initial (within three years)
Option D:	Strategic (within five years)
Q10.	_____ of the following which is not the business driver for green IT strategy.
Option A:	Cost Reduction
Option B:	Sociocultural and Political Pressure
Option C:	Technology Obsolence
Option D:	Demands from Legal and Regulatory Requirements
Q11.	Controlling disk access by optimizing _____ is another way of skewing a disk access pattern.
Option A:	Storage Layouts
Option B:	Network Layouts
Option C:	data layouts
Option D:	Disk Layout
Q12.	Optimizing the efficiency of IT operational strategies has therefore become a priority to halt further damage to the environment and the reputation of the _____.
Option A:	Disk
Option B:	Network
Option C:	Internet
Option D:	Hardware
Q13.	_____ energy consumption in this environment is therefore a core objective of NGN equipment.

Option A:	decreasing
Option B:	increasing
Option C:	Minimizing
Option D:	Maximizing
Q14.	Which of the following perspectives takes the strongest stance in support of sustainability?
Option A:	Communalist
Option B:	Accommodating
Option C:	Deep ecology
Option D:	Free market
Q15.	_____regulations aims to reduce the amount of E-waste going to landfills.
Option A:	WEEE
Option B:	ROHS
Option C:	EPEAT
Option D:	IEEE
Q16	Which generation of Green IT is responsible for empowerment the range of green initiative?
Option A:	Green IT 1.0
Option B:	Green IT 2.0
Option C:	Green IT 2.1
Option D:	Green IT 3.0
Q17	A promising direction towards sustainable development is to design systems that are
Option A:	Flexible and irreversible
Option B:	Flexible and reversible
Option C:	Inflexible and reversible
Option D:	Inflexible and irreversible
Q18.	Energy management techniques for hard disks?
Option A:	Dynamic RPM
Option B:	Caching
Option C:	Magnetic Tape
Option D:	State transitioning
Q19	While developing a green IT strategy it is necessary that _____ of the influence of the strategy implemented.
Option A:	viewpoint
Option B:	Reference frame
Option C:	timeframe
Option D:	mindset
Q20	Organization procurement process must involve _____ , development and supplier management.
Option A:	cost oriented selection of raw material / product

Option B:	environmentally oriented selection of raw material / products
Option C:	service oriented selection of raw material / product
Option D:	inventory oriented selection of raw material / product

Q2	**Solve any Two Questions out of Three**	**10 marks each**
A	*Describe life cycle of device with neat and detailed diagram.*	
B	*Explain Key facilities and IT infrastructure within data centers.*	
C	*Explain processor power states.*	

Q3.	***Please delete the instruction shown in front of every sub question***	
A	**Solve any Two**	**5 marks each**
i.	*Explain differences between WEEE, ROHS and REACh*	
ii.	*What is green washing?*	
iii.	Explain green enterprise from value chain perspective.	
B	**Solve any One**	**10 marks each**
i.	*Explain SITS value curve.*	
ii.	*Give few examples to illustrate how context awareness leads to 'smarter' device ?*	

Course Code: ITDLO6025 and Course Name: Green IT
Answer Key

Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1	C
Q2	D
Q3	D
Q4	A
Q5	A
Q6	D
Q7	D
Q8	A
Q9	C
Q10	C
Q11	C
Q12	C
Q13	C
Q14	C
Q15	A
Q16	B
Q17	B
Q18	C
Q19	C
Q20	B

Program: **Information Technology**

Curriculum Scheme: Rev2016

Examination: TE Semester VI

Course Code: ITDLO6024 and Course Name: Multimedia System

Time: 2 hour   Max. Marks: 80

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	While enlarging the image, _____ image will blur while _____ image will not blur.
Option A:	vector,bitmap
Option B:	bitmap,gif
Option C:	bitmap,vector
Option D:	bitmap, jpeg
2.	What is the extension at the image file used by digital cameras and supports upto 24-bit colors?
Option A:	.bmp
Option B:	.jpeg
Option C:	.gif
Option D:	.tif
3.	If I want to use Google meet as a tool for my online class. Which of the following will be best supported Multimedia System Architecture for the same?
Option A:	Workstation Architecture
Option B:	IMA Architecture
Option C:	Network Architecture
Option D:	Internet Architecture
4.	_____ correlation between adjacent frames in a sequence of images in video applications.
Option A:	Spatial redundancy
Option B:	Spectral redundancy
Option C:	Temporal redundancy
Option D:	Coding redundancy
5.	_____ in JPEG aims at reducing the total number of bits in the compressed image.
Option A:	Zig-zag ordering
Option B:	run-length encoding
Option C:	Quantization
Option D:	Entropy coding
6.	WAVE sound file format bit stream encoding is the _____
Option A:	PCM

Option B:	DM
Option C:	PWM
Option D:	DPCM
7.	if I want to edit my childhood photograph, first I have to convert it into the digital format. What would be the best suitable device for the same?
Option A:	Camera
Option B:	scanner
Option C:	printer
Option D:	Electric pen
8.	A structure of linked elements through which the user can navigate, interactive multimedia becomes
Option A:	Hypermedia
Option B:	Hypertext
Option C:	inter media
Option D:	digital media
9.	-------provide the framework for organizing and editing the elements of a multimedia project
Option A:	Distributed multimedia applications
Option B:	Multimedia database
Option C:	Multimedia authoring tools
Option D:	Multimedia architecture
10.	Which of the following is not the feature of multimedia authoring tools?
Option A:	Editing and organizing features
Option B:	Interactivity features
Option C:	Performance tuning and play back features
Option D:	Communication feature
11.	Which one of the following authoring system are designed for single user and generally for single streams?
Option A:	Timeline based authoring
Option B:	Dedicated authoring systems
Option C:	Programmable authoring systems
Option D:	Telephone authoring systems
12.	The process of delivering multimedia data such as audio or video from a streaming service provider to an end user is called
Option A:	Streaming media
Option B:	Broadcasting
Option C:	Video conferencing
Option D:	Telecasting
13.	Which of the following step is not involved in the design process of multimedia?
Option A:	Identification of the requirements of the system
Option B:	Identifying the design issues
Option C:	Communication with the users
Option D:	Implementation

14.	The medium in which the stored document which has been distributed over the distribution medium is converted to facilitate viewing or reading by the end user is called
Option A:	Transmission medium
Option B:	Presentation medium
Option C:	Representation medium
Option D:	Information exchange medium
15.	Which one of the following is not the property of multimedia database management system?
Option A:	Persistence of data
Option B:	Security of data
Option C:	Consistent view of data
Option D:	Structure of data
16.	Which image files are a lossy format?
Option A:	GIF
Option B:	MPEG
Option C:	JPEG
Option D:	PNG
17.	Image data usually changes slowly across an image, that is the reason JPEG Encoding performs DCT on _____ image blocks
Option A:	4 x4
Option B:	8x8
Option C:	16x16
Option D:	32x32
18.	Which one of the following is not the design issue of multimedia authoring?
Option A:	Display resolution
Option B:	User interfaces
Option C:	Network interfaces
Option D:	Storage formats
19.	Which of the following component is not involved in a typical distributed application environment?
Option A:	Application software
Option B:	User interface and service agent
Option C:	Component service agent
Option D:	System software
20.	The primary role of middleware in distributed workgroup computing is
Option A:	To link the front end clients to the distributed systems
Option B:	To link the multiple clients with each other
Option C:	To link backend database to front end clients
Option D:	To link the database to the server

Q2	Solve any Four out of Six	5 marks each
A	Describe multimedia database.	
B	Compare CCITT group 3 one D and CCITT group 3 two D.	
C	What are the different types of redundancies in image?	
D	Compare RTF and TIFF.	
E	Explain virtual reality in details.	
F	What are design issues face to design the authoring system.	

Q3.	Solve any Two Questions out of Three	10 marks each
A	A networking company uses a compression technique to encode the message before transmitting over the network. Suppose the message contains the following characters with their frequency: **a:7 b:16 c:19 d:45 e:13 f:6** Note that each character in input message takes 1 byte. If the compression technique used is Huffman Coding, how many bits will be saved in the message?	
B	Write a short note on Distributed Multimedia System.	
C	Explain JPEG encryption in details.	

Course Code: ITDLO6024 and Course Name: Multimedia Systems

Answer Key

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	B
Q3.	A
Q4	C
Q5	C
Q6	A
Q7	B
Q8.	B
Q9.	C
Q10.	D
Q11.	B
Q12.	A
Q13.	C
Q14.	B
Q15.	D
Q16.	C
Q17.	B
Q18.	B
Q19.	D
Q20.	C

University of Mumbai
Examination June 2021
Examinations Commencing from 1st June 2021
Program: Information Technology
Curriculum Scheme: Rev 2016
Examination: TE Semester VI
Course Code: ITC601 and Course Name: Software Engineering with Project Management

Time: 2 hour   Max. Marks: 80

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which model combines linear and parallel flow?
Option A:	Waterfall
Option B:	Incremental
Option C:	Spiral
Option D:	Prototyping
2.	Which type of components will you use if Existing specifications, designs, code developed for past projects are similar to the software to be built for the current project
Option A:	Full-experience
Option B:	OTS
Option C:	Partial-experience
Option D:	New components
3.	With reference to Software Design Classes: _____ provide refinements of analysis classes

Option A:	User interface classes
Option B:	Business domain classes
Option C:	Process classes
Option D:	System classes
4.	A specification or product that has been formally reviewed and agreed upon, that thereafter serves as the basis for further development, and that can be changed only through formal change control procedures is called _____ .
Option A:	Software configuration item
Option B:	Baseline
Option C:	Software configuration model
Option D:	SCM process
5.	Which is not content of RFP?
Option A:	Statement of Work and Proposal Requirements
Option B:	Contractual Provisions
Option C:	Technical Information or Data
Option D:	Time line chart
6.	Project-Oriented Scope create
Option A:	Deliverable definition table
Option B:	Decision structure chart

Option C:	PERT chart
Option D:	Gantt chart
7.	As per revised PMI guidelines WBS should be
Option A:	Fixed
Option B:	Flexible
Option C:	Temporary
Option D:	not a part of Project Management.
8.	DSC stands for
Option A:	Decision structure chart
Option B:	Data structure chart
Option C:	Deliverable structure chart
Option D:	Design structure chart
9.	The prototyping model of software development is useful in which situation?
Option A:	Useful when requirements are not clear
Option B:	Useful when requirements are well defined
Option C:	Useful when projects with large development teams
Option D:	Useful when risk involves

10.	The "meta-questions" proposed by Gause and Weinberg refers to the questions which focuses on
Option A:	Customer and other stakeholders
Option B:	Effectiveness of the communication activity itself
Option C:	Customers perceptions about solution
Option D:	Meta model
11.	Information Hiding does NOT
Option A:	reduce the likelihood of "side effects"
Option B:	limit the global impact of local design decisions
Option C:	emphasize communication through controlled interfaces
Option D:	encourage the use of global data
12.	The set of activities that have been developed to manage change throughout the life cycle of computer software are _____.
Option A:	Software maintenance management
Option B:	Software configuration management
Option C:	Software testing
Option D:	Software life cycle management
13.	Sequence of scope management process is
Option A:	Scope initiation, planning, definition, verification and change control

Option B:	Scope verification, initiation, planning, definition and change control
Option C:	Scope planning, definition, verification, change control and planning
Option D:	Scope change control, verification, initiation, planning and definition
14.	WBS includes
Option A:	Only deliverables
Option B:	Only milestones
Option C:	Only executables
Option D:	Both deliverables and milestone
15.	Refactoring refers to _____
Option A:	Modification to internal design
Option B:	Pair Programming
Option C:	Encapsulation
Option D:	Component reusability
16.	Calculate the function point (FP) for the given information domain. Number of External Inputs (EI):15, Number of External Outputs (EO):12, Number of external inquiries (EQ):17, Number of internal files (ILF):6, Number of external interfaces (EIF):3. Assume the weighting factor to be average (4, 5, 4, 10, 7). The value adjustment factor is 46.
Option A:	399
Option B:	199

Option C:	299
Option D:	200
17.	When software is refactored, the existing design is examined for 1) redundancy 2) unused design elements 3) inefficient or unnecessary algorithms
Option A:	Only 1 is correct
Option B:	Only 1 and 3 are correct
Option C:	Only 1 and 2 are correct
Option D:	All 1,2 and 3 are correct
18.	In unit testing, if called/child module is not ready, dummy module will acts as called/child module, what is the name given to dummy module in unit testing?
Option A:	Stub
Option B:	Driver
Option C:	Sample module
Option D:	Reference module
19.	Project Charter is
Option A:	The deliverable for the second phase of the IT project methodology
Option B:	The deliverable for the first phase of the IT project methodology
Option C:	The deliverable for the third phase of the IT project methodology
Option D:	The deliverable for the fourth phase of the IT project methodology

20.	In AOA
Option A:	arrow represent activity and node represent event
Option B:	arrow represent event and node represent activity
Option C:	arrow represent dependency and node represent event
Option D:	arrow represent flow and node represent estimate

Q2.		(20 Marks)
A	**Attempt any two from following.**	**(5 marks each)**
	i.	Write a short note on Aspect Oriented Software Development.
	ii.	Comment on Collaborative Requirement Gathering process.
	iii.	Describe in brief Call and Return software architecture.
B	**Solve any One**	**(10 marks each)**
	i.	Explain how and why the analysis model is translated into design model.
	ii.	Describe in detail the process of developing a business case.

Q3.		(20 Marks)
A	**Attempt any two from following.**	**(5 marks each)**
	i.	Enlist and explain in brief Characteristics of Testability of a software.
	ii.	Describe how a project life cycle is associated to software development life cycle.
	iii.	Comment on RMMM planning.
B	**Solve any One**	**(10 marks each)**

i.	Explain how function points may be used for estimating cost and efforts required for a project.			
ii.	For the following table calculate expected duration of each activity and find the critical path.			

Activity	Predecessor	Optimistic Estimates (Days) a	Most Likely Estimates (Days) b	Pessimistic Estimates (Days) c
A	None	1	2	4
B	A	3	5	8
C	B	2	4	5
D	B	2	3	6
E	B	1	1	1
F	C, D	2	4	6
G	D, E	2	3	4
H	F, G	1	2	5
I	G	4	5	9
J	H, I	.5	1	3

Course Code: ITC601 and Course Name: Software Engineering with Project Management
Answer Key

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	A
Q3.	B
Q4	B
Q5	D
Q6	A
Q7	B
Q8.	C
Q9.	A
Q10.	B
Q11.	D
Q12.	B
Q13.	A
Q14.	D
Q15.	A
Q16.	C
Q17.	D
Q18.	A
Q19.	A
Q20.	A

Time: 2 hours   Max. Marks: 80
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All the Questions are compulsory and carry equal marks

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which one of the following words does not describe best the software design operators
Option A:	Decomposition
Option B:	Connecting elements
Option C:	Replication
Option D:	Compression
2.	Which features listed below are not the common architectural styles
Option A:	Data flow systems
Option B:	Call and return system
Option C:	Software maintenance
Option D:	Virtual machine
3.	Which one among the following does Seeheim reference model contain
Option A:	Data flow systems
Option B:	Application
Option C:	Call and return system
Option D:	Virtual machine
4.	Which one among the following does Arch/Slinky model contain
Option A:	Dialog control
Option B:	Call and return system
Option C:	Abstraction
Option D:	Data flow systems
5.	Which one among the following is not applicable to 4+1 view model
Option A:	Logical view
Option B:	Process view
Option C:	Abstraction
Option D:	Physical view
6.	Which one among the following is not applicable to benefits of DevOps
Option A:	Speed
Option B:	Reliability
Option C:	Security
Option D:	Complexity

7.	Which one among the following words do not describe the Vitruvian Triad
Option A:	Function and product planning
Option B:	Requirements analysis
Option C:	Fabrication
Option D:	Form and interaction design
8.	Which one of the following statements describe best the term complexity in software design
Option A:	is an approximation of selected aspects of a system such as its structure, behaviour, operation or characteristic
Option B:	can be thought of being composed of private hidden information and some visible information
Option C:	requires a long description describing the relationship between the structures within the system
Option D:	Implementation, testing and maintenance post deployment
9.	Which one of the following statements describe best the term modularity in software design
Option A:	requires a long description describing the relationship between the structures within the system
Option B:	can be thought of being composed of private hidden information and some visible information
Option C:	is an approximation of selected aspects of a system such as its structure, behaviour, operation or characteristic
Option D:	Implementation, testing and maintenance post deployment
10.	Which one of the following statements describe best the term Model in software design
Option A:	requires a long description describing the relationship between the structures within the system
Option B:	can be thought of being composed of private hidden information and some visible information
Option C:	Implementation, testing and maintenance post deployment
Option D:	is an approximation of selected aspects of a system such as its structure, behaviour, operation or characteristic
11.	After 1970 software program was written using
Option A:	Binary language
Option B:	High level language
Option C:	Assembly language
Option D:	Mnemonics
12.	Which statement written below best represents a connector
Option A:	is an indication that there is a mechanism that relates one component to another usually through relationships such as data flow or control flow.
Option B:	defines the hardware and software building blocks that make up the overall information system of an organization
Option C:	strategy, governance, organization and key business process
Option D:	Is a low level language

13.	Which statement written below best represents an architectural description
Option A:	is an indication that there is a mechanism that relates one component to another usually through relationships such as data flow or control flow.
Option B:	defines the hardware and software building blocks that make up the overall information system of an organization
Option C:	Is a low level language
Option D:	strategy, governance, organization and key business process
Q14.	Which statement written below best represents a business architecture
Option A:	is an indication that there is a mechanism that relates one component to another usually through relationships such as data flow or control flow.
Option B:	defines the hardware and software building blocks that make up the overall information system of an organization
Option C:	strategy, governance, organization and key business process
Option D:	Is a low level language
15.	Which statement written below is best applicable to abstraction thinking in the General methodology of design
Option A:	requires systematic thinking
Option B:	reduces the complexity of the problem
Option C:	the decomposition of complex systems into elements and their interrelationships, identifying essential distinctions, and discarding accidental distinctions
Option D:	is the combining of individual modules to produce a new entity
16.	Which statement written below is best applicable to design in software engineering view
Option A:	is the activity of gathering, identifying, and formalizing requirements in order to understand the actual problems for which a solution is sought
Option B:	is the activity of transforming requirement specifications into a technically feasible solution
Option C:	the design is transformed into source code
Option D:	fixing defects in the system and adding minor function enhancements
17.	Which statement written below is best applicable to implementation and testing in software engineering view
Option A:	the design is transformed into source code
Option B:	is the activity of transforming requirement specifications into a technically feasible solution
Option C:	is the activity of gathering, identifying, and formalizing requirements in order to understand the actual problems for which a solution is sought
Option D:	fixing defects in the system and adding minor function enhancements

18.	Which statement written below is best applicable to deployment and maintenance in software engineering view
Option A:	fixing defects in the system and adding minor function enhancements
Option B:	is the activity of transforming requirement specifications into a technically feasible solution
Option C:	the design is transformed into source code
Option D:	is the activity of gathering, identifying, and formalizing requirements in order to understand the actual problems for which a solution is sought
19.	Which words written below are best applicable to inception phase in the management view of software architecture
Option A:	development planning
Option B:	Problem definition
Option C:	implementation and testing
Option D:	delivering, installation training, support and documentation
20.	Which words written below are best applicable to elaboration phase in the management view of software architecture
Option A:	Problem definition
Option B:	delivering, installation training, support and documentation
Option C:	implementation and testing
Option D:	development planning

Q2 (20 Marks)	Solve any Two Questions out of Three 10 marks each
A	Explain with suitable examples elements of software architecture
B	List with suitable examples the problems faced in software architectural design
C	Write a short note on models with regards to software architecture

Q3. (20 Marks)	Solve any Two Questions out of Three 10 marks each
A	Explain in brief the goals of Software architecture
B	Describe in detail common architecture styles in software architecture
C	Write a short note on 4+1 view model of software architecture

Course Code: ITDLO 6022 and Course Name: Software Architecture

Answer Key

Question Number	Correct Option
Q1.	B
Q2.	C
Q3.	B
Q4.	A
Q5.	C
Q6.	D
Q7.	B
Q8.	C
Q9.	B
Q10.	D
Q11.	B
Q12.	A
Q13.	C
Q14.	C
Q15.	B
Q16.	B
Q17.	A
Q18.	A
Q19.	B
Q20.	D

University of Mumbai
Examination June 2021
Examinations Commencing from 1ˢᵗ June 2021
Program: Information Technology
Curriculum Scheme: Rev2016
Examination: TE Semester VI
Course Code: ITC604 and Course Name: Wireless Network

Time: 2 hour   Max. Marks: 80

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	When an electromagnetic wave travels in free space, it suffers from
Option A:	Absorption
Option B:	Attenuation
Option C:	Refraction
Option D:	Super-refraction
2.	The range of GSM and CDMA technology is _____ and they also have _____ rates and modulation schemes.
Option A:	Different, different
Option B:	Same, same
Option C:	Different, same
Option D:	Same, different
3.	The most critical feature of TDMA operation is
Option A:	Dividing the carrier channel bandwidth into time slots
Option B:	Assignment of time-slots among multiple subscribers
Option C:	Time synchronization to the incoming TDMA frame
Option D:	Providing different access rates to subscribers
4.	GPRS is an overlay on top of the _____ physical layer and network entities.
Option A:	AMPS
Option B:	ETACS
Option C:	GSM
Option D:	IS-95
5.	EDGE is a new radio interface technology with enhanced modulation, and increases the GPRS data rates by up to
Option A:	three times
Option B:	four times
Option C:	six times
Option D:	eight times

6.	With a slotted ALOHA random-access protocol, the maximum throughput is _____ of the full channel capacity
Option A:	18.4%
Option B:	36.8%
Option C:	50%
Option D:	100%
7.	The normalized bandwidth efficiency of the IS-95 CDMA system is
Option A:	64 chips/s/Hz
Option B:	1.35 chips/s/Hz
Option C:	0.98 chips/s/Hz
Option D:	0.5 chips/s/Hz
8.	Which of the following is not a WSN topology?
Option A:	Star
Option B:	Mesh
Option C:	Tree
Option D:	Ring
9.	WSN needs to be ……………
Option A:	Fault Tolerant
Option B:	Adaptable
Option C:	Recyclable
Option D:	Both Adaptable and Recyclable
10.	Which is not the application of VANETs
Option A:	Platooning
Option B:	Traffic information systems
Option C:	Road Transportation Emergency Services
Option D:	video transmission
11.	Which of the following is not a measurement parameter for ad-hoc network?
Option A:	Packet transmission ratio

Option B:	Routing overhead
Option C:	Hop count
Option D:	Network Data Transmission Speed
12.	Which of the following specifies a set of media access control (MAC) and physical layer specifications for implementing WLANs?
Option A:	IEEE 802.16
Option B:	IEEE 802.3
Option C:	IEEE 802.11
Option D:	IEEE 802.15
13.	HIPER-LAN stands for _____
Option A:	High Precision Radio Local Area Network
Option B:	High Performance Radio Local Area Network
Option C:	High Precision Radio Land Area Network
Option D:	Huge Performance Radio Link Access Node
14.	_____is a low data rate wireless networking protocol targeted towards automation and remote-control applications.
Option A:	ZigBee technology
Option B:	Bluetooth technology
Option C:	HR-PAN
Option D:	UMTS
15.	WiMAX and LTE use_____in uplink and downlink mechanism.
Option A:	Single antenna configuration
Option B:	Double antenna configurations
Option C:	multiple antenna configurations
Option D:	Radio Network configurations

16.	What is the raw channel bit error rate of Bluetooth?
Option A:	10^3
Option B:	10^10
Option C:	10^12
Option D:	10^1
17.	An attack in which the site is not capable of answering valid request.
Option A:	Smurfing
Option B:	Denial of service
Option C:	E-mail bombing
Option D:	Ping storm
18.	_____ provides an isolated tunnel across a public network for sending and receiving data privately as if the computing devices were directly connected to the private network.
Option A:	Virtual Protocol Network
Option B:	Virtual Public Network
Option C:	Virtual Private Network
Option D:	Visual Private Network
19.	Calculate number of APs per group supported by a mobility group made up of 12 4402-25 and 12 4402-50 WLC devices?
Option A:	800
Option B:	900
Option C:	1000
Option D:	1200
20.	The number of APs supported by 'Catalyst 3750G Integrated WLC WS-C3750G-24WS-S25' and 'Catalyst 6500 Series WiSM' respectively are _____
Option A:	50,100

Option B:	25,300
Option C:	25,100
Option D:	50,300

Q2. (20 Marks Each)	
A	**Solve any Two** **5 marks each**
i.	Differentiate between different wireless generations, 1G,2G,3G and 4G
ii.	Explain the design issues of VANET and Justify the importance.
iii.	What are the challenges in Wireless sensor network?
B	**Solve any One** **10 marks each**
i.	Explain wireless multiple access techniques with suitable diagrams
ii.	Explain Bluetooth Architecture in Detail along with its Advantages.

Q3 (20 Marks Each)	
A	**Solve any Two** **5 marks each**
i.	What are the Design Considerations for Campus Wireless Networks? Explain
ii.	Compare Mi-Fi and Ly-Fi
iii.	Explain Virtual Private Network and List different protocols?
B	**Solve any One** **10 marks each**
i.	Explain in detail WMAN 802.16 WiMAX Technology.
ii.	What is the difference between a physical channel and a logical channel? Describe types of GSM logical channel.

Course Code: ITC604 and Course Name: Wireless Network

Answer Key

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	**B**
Q2.	**A**
Q3.	**C**
Q4	**C**
Q5	**A**
Q6	**B**
Q7	**C**
Q8.	D
Q9.	A
Q10.	D
Q11.	D
Q12.	C
Q13.	B
Q14.	A
Q15.	C
Q16.	A
Q17.	B
Q18.	C
Q19.	B
Q20.	B