UNIVERSITY OF MUMBAI

CURRICULUM SCHEME R2016

EXAMINATION: FINAL YEAR SEMESTER VII

COURSE CODE ILO7019 COURSE NAME : DEVELOPMENT ENGINEERING

TIME: 1 Hr Marks 50

QUESTION PAPER-1

	QUESTION		**Answer**
Q.No.1	The 73rd amendment Act pertains to which of the following		**B**
Option A	Statehood of Delhi		
Option B	Panchayti Raj Institutions		
Option C	Municipalities		
Option D	Land reforms		
Q.No.2	The Panchayati Raj is included in the		**B**
Option A	Union list		
Option B	State list		
Option C	Concurrent list		
Option D	Residuary list		
Q. No.3	Which of the following was the first committee on Panchayati raj in India		**A**
Option A	Balwant Rai Mehta		
Option B	Ashok Mehta		
Option C	L.M.Singhvi		
Option D	S. Mohinder Singh		
Q.No.4	Which of these is a factor that affects ethical and unethical behaviour		**A**
Option A	Ethical dilemma		
Option B	Diversity		
Option C	Teamwork		
Option D	Open communication		**C**
Q. No.5	When is National Panchayati Day celebrated		
Option A	23rd December		
Option B	1st June		
Option C	24th April		
Option D	15th September		
Q.No.6	Those individuals who raise ethical concerns to others inside or outside the organisation are called		**B**
Option A	Entrepreneur		
Option B	Whistle blower		
Option C	Social entrepreneur		
Option D	Social impact management		
Q.No.7	The term that refers to principles, values, beliefs that define right or wrong behaviour is		**C**
Option A	Customer satisfaction		
Option B	Innovation		
Option C	Ethics		
Option D	Empowerment		

Q.No8	Which of the following principles is the essential principle of utilitarian school of ethics		**B**
Option A	Greatest health principle		
Option B	Greatest Happiness principle		
Option C	Greatest wealth principle		
Option D	Greatest respect principle		
Q.No9	Which of the following is an appropriate general principle with regard to engineering ethics		**A**
Option A	The engineer shall regard his duty to the public welfare as paramount to all other obligations		
Option B	The engineer shall regard his duty to the objectives of the company as paramount to all other obligations		
Option C	The engineer shall regard his duty to the Profession of engineering as paramount to all other obligations		
Option D	The engineer shall regard his duty to his excellence as paramount to all other obligations		
Q.No10	Which of the following statements is the most correct description of the relationship between humans and technology		**C**
Option A	Technology impacts upon human action and human beings		
Option B	Human beings" act on, use,make" technology		
Option C	Technology provides apparatus for human action		
Option D	Technology hijacks human autonomy		
Q.No 11	Which of the following elements must always be in the mind of the engineer while performing his duties vis-a-visEthics (1)public safety, (2) economy, (3) health, (4) welfare		**D**
Option A	1,2,3		
Option B	1,2,3,4		
Option C	1,4		
Option D	1,3,4		
Q.No 12	73rd amendment gave practical shape to which article of the constitution		**C**
Option A	Article 14		
Option B	Article 32		
Option C	Article 40		
Option D	Article 51		
Q.No 13	Which one of the following is not correct ?		**C**
Option A	Growth is quantitative and value neutral		

Option B	Development means a qualitative change which is always value positive		
Option C	Positive growth and development refer to changes over a period of time		
Option D	Both growth and development refer to changes over a period of time.		
Q.No 14	The Human Development Index ranks the countries based on their performance in the key areas of (1) health, (2) sex-ratio, (3)education (4) access to resources		**C**
Option A	1,2,3		
Option B	2,3,4		
Option C	1,3,4		
Option D	1,2,4		
Q.No 15	The multi-dimensional poverty index is a measure developed by the		**D**
Option A	UNCTAD		
Option B	World Bank		
Option C	International Monetary Fund IMF		
Option D	Oxford poverty and human development initiative , OPHDI , and the UNDP		
Q.No 16	Which state has no Panchayati Raj Institution at all		**A**
Option A	Mizoram		
Option B	Manipur		
Option C	Arunachal Pradesh		
Option D	Tripura		
Q.No 17	Which state first reserved 50% setas for women		**D**
Option A	Andhra Pradesh		
Option B	Uttar Pradesh		
Option C	Madhya Pradesh		
Option D	Bihar		
Q.No 18	Which of the following system is established on the basis of direct election		**A**
Option A	Gram Panchayat		
Option B	Block Committee		
Option C	Zila Parishad		
Option D	District		
Q.No 19	The following is true about khap panchayat		**A**
Option A	based on caste system		
Option B	Consists of elected representatives		
Option C	Are constitutional bodies		
Option D	Follow rule of law of the land		
Q.No 20	In which five year plan the Panchayat Raj System was introduced in India for the first time		**B**

Option A	First		
Option B	Second		
Option C	Fifth		
Option D	Sixth		
Q.No 21	Which of the following years has been declared year of Gram Sabha		**B**
Option A	2008-09		
Option B	2009-10		
Option C	2011-12		
Option D	2012-13		
Q.No 22	Engagement of local people in development project refers to		**C**
Option A	Economic development		
Option B	Socila development		
Option C	Participatory development		
Option D	Sustainable development		
Q.No 23	Panchayati Raj system is based on the vision of		**B**
Option A	Pandit Jawaharlal Nehru		
Option B	Mahatma Gandhi		
Option C	Lal Bahadur Shastri		
Option D	Sardar Patel		
Q.No 24	Panchayats are constituted for		**B**
Option A	four years		
Option B	five years		
Option C	six years		
Option D	three years		
Q.No 25	The G.V.K.Rao committee was appointed by		**B**
Option A	Government of India		
Option B	Planning Commission		
Option C	Block development office		
Option D	Zilla Parishad		

Q=QUESTION	question_description	question_explanation	question_type	question_difficulty
A=ANSWER	answer_description	answer_explanation	answer_isright	answer_position
Q	Which of them is not a wireless attack?		M	1
A	Eavesdropping		0	1
A	MAC Spoofing		0	2
A	Wireless Hijacking		0	3
A	Phishing		1	4
Q	Who deploy Malwares to a system or network?		M	1
A	Criminal organizations, Black hat hackers, malware developers, cyber-terrorists		1	1
A	Criminal organizations, White hat hackers, malware developers, cyber-terrorists		0	2
A	Criminal organizations, Black hat hackers, software developers, cyber-terrorists		0	3
A	Criminal organizations, gray hat hackers, Malware developers, Penetration testers		0	4
Q	Compromising confidential information comes under_____		M	1
A	Threat		1	1
A	Bug		0	2
A	Vulnerability		0	3
A	Attack		0	4
Q	What is the best option for thwarting social-engineering attacks?		M	1
A	Technology		0	1
A	Training		1	2
A	Policies		0	3
A	Physical controls		0	4
Q	Botnets are managed by _____		M	1
A	Bot-holders		0	1
A	Bot-herders		1	2
A	Bot-trainers		0	3
A	Bot-creators		0	4
Q	_____ is a code injecting method used for attacking the database of a system / website.		M	1
A	HTML injection		0	1
A	SQL Injection		1	2
A	Malicious code injection		0	3
A	XML Injection		0	4
Q	Try not to keep _____ passwords, especially fingerprint for your smart-phone, because it can lead to physical hacking if you're not aware or asleep.		M	1
A	Biometric		1	1
A	PIN-based		0	2
A	Alphanumeric		0	3
A	Short		0	4
Q	By default, Bluetooth devices operate in which security mode?		M	1
A	Mode 1; "non-secure" mode		1	1
A	Mode 2; leaving security up to each application.		0	2

A	Mode 3; enforce link encryption for all traffic.		0	3
A	Mode 4; security settings default to a mobile policy server.		0	4
Q	Which of the following is NOT real security threat?		M	1
A	Virus		0	1
A	Worms		0	2
A	Spam		1	3
A	Trojans		0	4
Q	A small piece of code used as a payload in the exploitation of software vulnerability, is called as _____		M	1
A	Assembly code		0	1
A	Shell code		1	2
A	C and C++ code		0	3
A	Malicious code		0	4
Q	If you fall for a phishing scam, what should you do to limit the damage?		M	1
A	Change Username		0	1
A	Delete the phishing email.		0	2
A	Unplug the computer. This will get rid of any malware		0	3
A	Change any compromised passwords		1	4
Q	What kind of attempts is made by individuals to obtain confidential information from a person by falsifying their identity?		M	1
A	Phishing		1	1
A	Computer viruses		0	2
A	Spyware		0	3
A	Malware		0	4
Q	Phishers often develop _____ websites for tricking users & filling their		M	1
A	Legitimate		0	1
A	Illegitimate		1	2
A	Genuine		0	3
A	Official		0	4
Q	_____ is a generic term which refers to all the legal and regulator aspects of Internet and the World Wide Web		M	1
A	Cyber law		1	1
A	Cyber dyne		0	2
A	Cyber café		0	3
A	Electronic law		0	4
Q	Which factor determines when your IT system will be available for knowledge workers to access?		M	1
A	Reliability		0	1
A	Accessibility		0	2
A	Availability		1	3
A	Admissibility		0	4
Q	Accessing data without permission is known as.....		M	1
A	unlawful access		0	1
A	Illegal Access		0	2

A	Legal Access		0	3
A	Unauthourized Access		1	4
Q	____ is the application of information and communication technology (ICT) for delivering government services		M	1
A	Governance		0	1
A	Governance and ethics		0	2
A	Electronic governance		1	3
A	Risk and governance		0	4
Q	The following cannot be exploited by assigning or by licensing the rights to others		M	1
A	Patents		0	1
A	Designs		0	2
A	Trademark		1	3
A	Ownership		0	4
Q	When IT Act 2000 came into effect?		M	1
A	17 October,2000		1	1
A	11 November,2000		0	2
A	17 October,2001		0	3
A	11 November,2001		0	4
Q	Which section of IT Act deals with Hacking of computer systems and its penalties?		M	1
A	Section 65		0	1
A	Section 66		1	2
A	Section 67		0	3
A	Section 69		0	4
Q	Which are the sections of IT Act applicable for Cyber pornography?		M	1
A	66, 66A, 66B		0	1
A	67, 67A, 67B		1	2
A	67, 67C, 67D		0	3
A	43, 43D, 69D		0	4
Q	Penalty for Breach of confidentiality and privacy is defined in section ----		M	1
A	71		0	1
A	72		1	2
A	73		0	3
A	74		0	4
Q	Sarbanes-Oxley Act (SOX) is used for		M	1
A	to stop hacking		0	1
A	protect equity shares		0	2
A	protect employee		0	3
A	To protect shareholders and the general public from accounting errors and fraudulent practices in enterprises		1	4
Q	HIPPA Act of 1996 stands for _____		M	1
A	Health Insurance Policy and Administration Act		0	1
A	Health Insurance Policy and Accountability Act		0	2
A	Health Insurance Portability and Administration Act		0	3
A	Health Insurance Portability and Accountability Act		1	4
Q	NERC Stands for_____		M	1
A	North African Electric Reliability Corporation		0	1

A	North American Electric Reliability Corporation		1	2
A	North American Electronic Reliability Corporation		0	3
A	North American Electric Regularatory Corporation		0	4

Q=QUESTION A=ANSWER	question_description answer_description	question_explanation answer_explanation	question_type answer_isright	question_difficulty answer_position
Q	_____ analyzes customer data for designing and executing targeted		M	1
A	Analytical CRM		1	1
A	Operational CRM		0	2
A	Collaborative CRM		0	3
A	Transactional CRM		0	4
Q	Cybersquatting refers to the practice of_____		M	1
A	Using someone else's domain names for profiting from their goodwill		1	1
A	Buying competitors information for profiting		0	2
A	Using illegal means to crash competitor's website		0	3
A	Selling competitors information for profiting		0	4
Q	Social computing forces companies to deal with customers		M	1
A	Reactively		0	1
A	Proactively		1	2
A	Neutrally		0	3
A	Economically		0	4
Q	Electronic commerce systems generally includes all of the following		M	1
A	Internet websites for online sales		0	1
A	Extranet access of inventory databases		0	2
A	Direct links to credit reporting services		1	3
A	Intranets that allow sales reps to access customer records		0	4
Q	Cloud computing can be best explained by _____		M	1
A	LAN operations		0	1
A	Intranet		0	2
A	Web application		0	3
A	Hadoop		1	4
Q	Pervasive computing systems are _____		M	1
A	Context aware		1	1
A	Content aware		0	2
A	Network specific		0	3
A	Range specific		0	4
Q	Difference between traditional data centre and the cloud includes		M	1
A	Cost of data centres is higher		1	1
A	Cost of data centres is less		0	2

A	Cost of cloud is higher		0	3
A	Cost of cloud is less		0	4
Q	Sourcing, Ownership, reliability are the _____provided by the cloud		M	1
A	Community		0	1
A	Applications		0	2
A	Services		1	3
A	Features		0	4
Q	A manufacturing approach that integrates several computerized		M	1
A	Sales force automation		0	1
A	Computer-integrated manufacturing		1	2
A	Product Lifecycle Management		0	3
A	Management of interdependent items		0	4
Q	Systems which typically provide information to managers in the		M	1
A	ERP systems		0	1
A	Business Intelligence System		0	2
A	Transaction Processing System		1	3
A	HR Information Systems		0	4
Q	An adhoc report which includes only information that		M	1
A	Comparative reports		0	1
A	Drill-down reports		0	2
A	Exception reports		1	3
A	Routine reports		0	4
Q	The three main business processes supported by ERP systems		M	1
A	Transaction and planning processes		0	1
A	Procurement, fulfillment, production processes		1	2
A	Analysis, Administrative and Adhoc Processes		0	3
A	Production planning and Administrative processes		0	4
Q	A business strategy that enables manufacturers to share			1
A	Planning Production and Operations		0	1
A	Quality Control		0	2
A	Product Lifecycle Management.		1	3
A	Control and Auditing		0	4
Q	The two different strategies that the production process can follow:			1
A	Make-to-store and Make-to-sell		0	1
A	Make-to-process and Make-to-store		0	2
A	Best order, Least order		0	3

A	Make-to-stock and Make-to-order		1	4
Q	Which out of the subsquent is NOT an example of data?		M	1
A	301062		0	1
A	Blue		0	2
A	32, Primrose Hill		1	3
A	Mumbai		0	4
Q	Definition of Sample in MIS is			1
A	A tool used to collect statistical data		0	1
A	Statistics collected from an entire population		0	2
A	The factual information collected from a survey or other source is		0	3
A	A group chosen from a population		1	4
Q	Cost leadership strategy of the competitive advantage is to			1
A	Produce products and/or services at the lowest cost in the industry.		1	1
A	Offer different products, services, or product features than your		0	2
A	Introduce new products and services, add new features to existing		0	3
A	Improve the manner in which a fi rm executes its internal business		0	4
Q	A _____provides easy access to timely information and direct access			1
A	Interface		0	1
A	Dashboard		1	2
A	Whiteboard		0	3
A	Openboard		0	4
Q	Which one of these is an incorrect category into which all managerial		M	1
A	Operational control		0	1
A	Management control		0	2
A	Inventory control		1	3
A	Strategic planning		0	4
Q	In the _____ normal form, a composite attribute is converted to			1
A	First		1	1
A	Second		0	2
A	Third		0	3
A	Fourth		0	4
Q	The process of data to be presented to users in visual formats such as			1
A	Image Processing		0	1
A	Data Visualization		1	2
A	Human Machine Interaction		0	3
A	Data Segmentation		0	4

Q	A person who breaks into a computer to cause damage or to steal			1
A	Hacker		1	1
A	Cracker		0	2
A	Jammer		0	3
A	Spammer		0	4
Q	A program code that cannot work without being inserted into another		M	1
A	Worm		0	1
A	Virus		1	2
A	Sniffer		0	3
A	Spoofing		0	4
Q	Tracking or monitoring people's activities with the aid of information			1
A	Snooping		0	1
A	Electronic Surveillance		1	2
A	Investigation		0	3
A	Data collection		0	4
Q	An informal, personal journal that is frequently updated and is			1
A	Weblog		1	1
A	Electronic bulletin boards		0	2
A	Newsgroups		0	3
A	Electronic discussions		0	4

University of Mumbai			
Examination 2020 under cluster 4 (PCE)			
Program: BE Computer Engineering			
Curriculum Scheme: Rev 2016			
Examination: BE Semester VII			
Course Code: CSDLO7031 and Course Name: Adv. System Security & Digiatl Forensics			
Time: 1 hour			Max. Marks: 50
	Q=QUESTIC	question_description	question_type
Q. No	A=ANSWER		answer_isright
1	Q	Under the _____ attack malicious scripts are injected in trus	M
	A	HTML Injection	0
	A	XML Injection	0
	A	Cross Site Request Forgery (XSRF)	0
	A	Cross Site Scripting (XSS)	1
2	Q	Malicious Software is also known as _____	M
	A	Malfunctioned Software	0
	A	Malware	1
	A	Multipurpose Software	0
	A	Malfunctioning of Security	0
3	Q	_____ do not need to attach themselves to a host progran	M
	A	Logic Bomb	0
	A	Trapdoor	0
	A	Virus	0
	A	Worm	1
4	Q	slicing refers to a series of many small actions_____	M
	A	Covert channel	0
	A	Salami	1
	A	Trapdoors	0
	A	linearization	0
5	Q	According to OWASP what is the most dangerous vulnerabilities	M
	A	Injection	1
	A	cross-site request forgery	0
	A	Security miscofiguration	0
	A	cross-site scripting	0
6	Q	Which of the following type of data, phishers cannot steal from its	M
	A	bank details	0
	A	phone number	0
	A	passwords	0
	A	apps installed in the mobile	1

7	Q	The RADUIS Server	M
	A	is a part of wireless infrastructure within a typical organisation	0
	A	is a part of security infrastructure within the typical organisation	0
	A	is resposible for Authentication. Authorization and Accounting (AA	1
	A	Communicates fluently using EAPOL messages	0
8	Q	The Key Confirmation key is used to which of the following proces	M
	A	Integrity-Protect data between station and AP	0
	A	Integrity-Protect messages in the fourway handshake	1
	A	Encrypt data between station and AP	0
	A	Encrypt message containg the group key	0
9	Q	What are three major categories that cybercrime falls into the follo	M
	A	Group, Illegal Property, and Govrnment	0
	A	Individual, Property and Government	1
	A	Group, Illegal Property, and Individual	0
	A	Group, Property, and Individual	0
10	Q	Which of the following is an example of Intellectual property ?	M
	A	Patent	1
	A	conversaction	0
	A	person	0
	A	Machine	0
11	Q	Reports and logs generated by forensic tools are typically in plainte	M
	A	PDF	0
	A	PS	0
	A	TXT	0
	A	HTML	1
12	Q	What is called as the process of creation a duplicate of digital med	M
	A	Acquisition	1
	A	Steganography	0
	A	Live analysis	0
	A	Hashing	0
13	Q	AFF stands for	M
	A	Advanced forensic format	1
	A	Advanced file format	0
	A		0
	A	Advanced for data format	0
14	Q	EnCase was originally created by_____	M
	A	Shawn McCreight	1
	A	Shamir	0
	A	Rivest	0

	A	Roger	0
15	Q	FTK and other computer forensics programs use ____ to tag and do	M
	A	tracers	0
	A	hyperlinks	0
	A	bookmarks	1
	A	indents	0
16	Q	The Criminal Law is defined by _____	M
	A	Statutes	1
	A	Contracts	0
	A	Government	0
	A	Society	0
17	Q	The secrets stored on the SIM card include	M
	A	The longterm key shared with MSC/HLR	1
	A	The TMSI	0
	A	the key used for encrypting user messages	0
	A	the key is used for integrity-protecting all messages	0
18	Q	The SSL Record Layer protocol handles	M
	A	entity authentication	0

	A	session key management	0
	A	key agreement	0
	A	message integrity checking & message encryption	1
19	Q	Attack which forces a user(end user)to execute unwanted actions or	M
	A	Cross-site scoring scripting	0
	A	Cross-site request forgery	1
	A	Cross-site scripting	0
	A	Two-factor authentication	0
20	Q	The Bell-LaPadula and Biba models are concerned with	M
	A	confidentiality only	0
	A	integrity only	0
	A	confidentiality and integrity respectively	1
	A	integrity and confidentiality respectively	0
21	Q	Sparse Linearization (XSL) attack was a method used to break ___	M
	A	DES	0
	A	AES	1
	A	RSA	0
	A	Deffi-Hellman	0
22	Q	An HTTP connection uses port _____ whereas HTTPS uses p	M
	A	40,80	0
	A	60.62	0
	A	80,443	1
	A	60,80	0
23	Q	Which of the following is might be a Real-World Covert Channel	M
	A	ARP Packet Header	0
	A	IP Packet Header	0
	A	TCP header “reserved” field	1
	A	UPD datagram field	0
24	Q	Which of the following variables generated/computed by the MSC	M
	A	The Random Number Generated by the MSC	1
	A	The cipher (encryption) Key	0
	A	The Integrity Check Key	0
	A	The Sequence Number	0
25	Q	Which statement is true for Tort law?	M
	A	the already written body of standards of proper behavior, document	0
	A	the already written body of standards of proper behavior, not docur	0
	A	the unwritten body of standards of proper behavior, documented in	1
	A	the unwritten body of standards of proper behavior, and not docum	0

University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering
Curriculum Scheme: Rev 2016
Examination: Final Year Semester VII
Course Code: CSC703 and Course Name: AISC

Time: 1 hour Max. Marks: 50

Q	The process by which you become aware of messages through your sense is called?	M
A	Organization	0
A	Sensation	0
A	Perception	1
A	Evaluation	0
Q	What is the form of Fuzzy logic?	M
A	Two-valued logic	0
A	Crisp set logic	0
A	Many-valued logic	1
A	Binary set logic	0
Q	Uninformed search is also called as	M
A	Heuristic search	0
A	Blind search	1
A	Hash search	0
A	Binary search	0
Q	Which search solves the problem of Depth Limited Searc	M
A	BFS	0
A	Iterative Deepening Search	1
A	DFS	0
A	UCS	0
Q	In _____ search,DFS is carried out with a predetermined depth limit	M
A	Depth Limited	1
A	A*	0
A	IDA*	0
A	BFS	0
Q	Which is not a terminology of Genetic algorithm ?	M
A	Chlorophyll	1
A	Chromosome	0
A	Population	0
A	Gene	0
Q	_____ is a location in hill which is at height from other parts of the hill but is not the actual hill top	M
A	Local Maximum	1
A	Global Maximum	0
A	Plateau	0

A	Ridges	0
Q	Consider the following steps: i. Gathering knowledge ii. Defining problem iii. Applying solution iv. Planning vi. Forming the state space What is the correct order for solving an AI problem?	M
A	i. v. ii. iv. iii.	0
A	i. ii. iii. iv. v.	0
A	ii. i. v. iv. iii.	1
A	i. vi. ii. iv. iii.	0
Q	In propositional logic P ⇔ Q is equivalent to (Where ~ denotes NOT):	M
A	~ (P Q) ~ (Q P)	0
A	(~ P Q) (~ Q P)	1
A	(P Q) (Q P)	0
A	~ (P Q) → ~ (Q P)	0
Q	What are not present in start actions?	M
A	Preconditions	1
A	Effect	0
A	Finish	0
A	Postcondition	0
Q	Knowledge and reasoning also play a crucial role in dealing with _____ environment.	M
A	Completely Observable	0
A	Partially Observable	1
A	Neither Completely nor Partially Observable	0
A	Only Completely and Partially Observable	0
Q	A fuzzy set whose membership function has at least one element x in the universe whose membership value is unity is called	M
A	normal fuzzy set	1
A	sub normal fuzzy sets	0
A	convex fuzzy set	0
A	concave fuzzy set	0
Q	The crossover points of a membership function are defined as the elements in the universe for which a particular fuzzy set has values equal to _____	M
A	Infinite	0
A	0	0
A	1	0
A	0.5	1
Q	A fuzzy set ‘A’ in Z is characterized by a _____ that associates with element of Z, a real number in the interval [0, 1].	M
A	Grade of membership	0

A	Membership function	1
A	Generic element	0
A	Degree of truthness	0
Q	The Student is Tall.Here the Tall (linguistic variable) can be represented by	M
A	Fuzzy relation	0
A	Fuzzy Set	1
A	Crisp set Logic	0
A	Crisp Relation	0
Q	While designing Fuzzy Logic Machine steps are performed in which sequence?	M
A	Fuzzification->Rule Evaluation ->Defuzzification	1
A	Defuzzification->rule Evaluation->Fuzzification	0
A	Rule Evaluation->Fuzzification->Defuzzification	0
A	Fuzzification->Defuzzification->Rule Evaluation	0
Q	What is the starting weight value in Self organization map	M
A	One	0
A	Two	0
A	Null	0
A	Random	1
Q	Who proposed the first perceptron model in 1958?	M
A	McCulloch-pitts	0
A	Marvin Minsky	0
A	Hopfield	0
A	Rosenblatt	1
Q	Hebb rule is more suited for which type of data	M
A	Bipolar	1
A	Binary	0
A	Continuous	0
A	Discrete	0
Q	Which of the following learning rule is unsupervised	M
A	Perceptron	0
A	Delta	0
A	Correlation	0
A	Hebbian	1
Q	Correlation learning law is special case of?	M
A	Hebb learning law	1
A	Perceptron learning law	0
A	Delta learning law	0
A	LMS learning law	0
Q	What is unsupervised learning?	M
A	weight adjustment based on deviation of desired output f	0
A	weight adjustment based on desired output only	0
A	weight adjustment based on local information available t	1
A	weight variation	0
Q	What is shape of dendrites like	M

A	Oval	0
A	Rectangle	0
A	Round	0
A	Tree	1
Q	Which of the following is incorrect application of Expert System?	M
A	Design Domain	0
A	Monitoring Systems	0
A	Knowledge Domain	0
A	Systems domain	1
Q	A Neuro-fuzzy system can be seen as	M
A	3-layer feed forward neural network.	1
A	2-layer feed forward neural network	0
A	1-layer feed forward neural network	0
A	Perceptron	0

University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering
Curriculum Scheme: Rev 2016
Examination: Final Year Semester VII
Course Code: CSC701 and Course Name: Digital Signal and Image Processing
Time: 1 hour Max. Mar

Q NO	QUESTION	OPTIONS				Correct Answer
		A	B	C	D	
1	Signals conveys	Value	Information	Time	object	**B**
2	Which of the following should be done in order to convert a continuous-time signal to a discrete-time signal?	Sampling	Differentiating	Integrating	Computing	**A**
3	The function given by the equation x(n)=1, for n=0; x(n)=0, for n>0 is a:	Step function	Ramp function	Triangular function	Impulse function	**D**
4	Is the function y[n] = x[n-1] – x[n-56] causal?	The system is non-causal	Both causal and non-causal	The system is causal	Neither causal nor non-causal	**C**
5	The interface between an analog signal and a digital processor is	A/D converter	D/A converter	Modulator	Demodulator	**A**
6	The method of finding input sequence x(n) from DFT X(K) is called as	DFT	IDFT	DTFT	Convolution	**B**
7	In 4-point DFT,Value of twiddle factor repeats after	kn=3	kn=4	kn=2	kn=5	**A**
8	The no of complex multiplications required in 32-point DFT is	1024	992	1243	932	**A**
9	DFT of unit impulse signal is	1	-1	2	0	**A**
10	Fast Fourier Transform (FFT) calculates	DTFT	DFT in faster way	DTFT in faster way	DFS	**B**
11	In DIT-FFT	Input is decimented in time	Output is decimented in time	Input is decimented in frequency	Output is decimented in frequency	**A**
12	FFT improves the speed of computation by exploring	Symmetry property	Periodicity property	Symmetry & Periodicity property	Linearity property	**C**
13	The number of butterflies in each stage of computation of 16 point radix 2 FFT is	4	6	8	10	**C**
14	The spatial coordinates of a digital image (x,y) are proportional to:	Position	Brightness	Contrast	Noise	**B**

Q NO	QUESTION	OPTIONS				Correct Answer
		A	B	C	D	
15	What is pixel?	Pixel is the elements of a digital image	Pixel is the elements of an analog image	Pixel is the cluster of a digital image	Pixel is the cluster of an analog image	**A**
16	Assume that an image f(x, y) is sampled so that the result has M rows and N columns. If the values of the coordinates at the origin are (x, y) = (0, 0), then the notation (0, 1) is used to signify :	Second sample along first row	First sample along second row	First sample along first row	Second sample along second row	**A**
17	An image whose gray-levels span a significant portion of gray scale have _____ dynamic range while an image with dull, washed out gray look have _____ dynamic range.	Low and High respectively	High and Low respectively	Both have High dynamic range, irrespective of gray levels span significance on gray scale	Both have Low dynamic range, irrespective of gray levels span significance on gray scale	**B**
18	_____ involves sharpening of somefeatures of the image such as edges, boundaries, contrast etc.	Image enhancement	Image restoration	Image histogram	Image morphing	**A**
19	Image restoration involves removal of _____.	Background	Blur and noise	Pixels	High frquency component	**B**
20	A negative of image is obtained by _____ of gray levels of the image.	Average	Sum	Difference	Reverse scalling	**D**
21	Gray level slicing / intensity level slicing technique is used to highlight a specific range of gray levels in a image. This transformation displays high value for gray levels in the range _____ and low value otherwise.	$r1 \leq r \leq r2$	$r1 + r2 \geq r$	$r1 < r2$	$r1 > r2$	**A**
22	Example of discontinuity approach in image segmentation is	edge based segmentation	centre based segmentation	region based segmentation	area based segmentation	**A**
23	First derivative approximation says that values of intensities at the onset must be	nonzero	zero	positive	negative	**A**
24	Image segmentation is also based on	morphology	set theory	extraction	Recognition	**A**
25	Vertical lines are angles at	0	45	90	135	**C**

University of Mumbai

Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering
Curriculum Scheme: Rev2016
Examination: Final Year Semester VII
Course Code: CSC702 and Course Name:Mobile Communication and Computing
Time: 1 hour Max. Marks: 50

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

Q1.	Which of the following measures spectrum efficiency of a wireless system?
Option A:	Channel capacity
Option B:	Radio capacity
Option C:	Spectral capacity
Option D:	Carrier capacity
Q2.	Which of the following is not an objective for channel assignment strategies?
Option A:	Efficient utilization of spectrum
Option B:	Increase of capacity
Option C:	Minimize the interference
Option D:	Maximize the interference
Q3.	Who launched the first commercial 1G network in the world?
Option A:	AMPS, America
Option B:	NMT, Netherlands
Option C:	NTT, Japan
Option D:	TACS, UK
Q4.	Who launched the first commercial 1G network in the world?
Option A:	AMPS, America
Option B:	NMT, Netherlands
Option C:	NTT, Japan
Option D:	TACS, UK
Q5.	Which of the following comes under supplementary ISDN services?
Option A:	Emergency calls
Option B:	Packet switched protocols
Option C:	Call diversion
Option D:	Standard mobile telephony
Q6.	Which of the following is not a TDMA standard of 2.5G network?
Option A:	HSCSD
Option B:	GPRS

Option C:	EDGE
Option D:	GSM
Q7.	GPRS and EDGE supports which 2G standard?
Option A:	GSM only
Option B:	IS-136 only
Option C:	GSM and IS-136 both
Option D:	PDC
Q8.	What is the chip rate of W-CDMA?
Option A:	1.2288Mcps
Option B:	3.84Mcps
Option C:	270.833Mcps
Option D:	100Mcps
Q9.	The IEEE 802.11g, uses _____.
Option A:	DSSS
Option B:	OFDM
Option C:	FHSS
Option D:	both DSSS and FHSS
Q10.	In IEEE 802.11, the access method used in the DCF sublayer is _____.
Option A:	CSMA/CA
Option B:	CSMA/CD
Option C:	ALOHA
Option D:	slotted ALOHA
Q11.	The RTS and CTS frames in CSMA/CA ____ solve the hidden station problem. The RTS and CTS frames in CSMA/CA ____ solve the exposed station problem.
Option A:	cannot; cannot
Option B:	can; cannot
Option C:	cannot; can
Option D:	can; can
Q12.	MACA avoids the hidden terminal problem by
Option A:	RTS is unicast.
Option B:	RTS is braodcast
Option C:	CTS is unicast.
Option D:	CTS is braodcast
Q13.	Multiple access schemes are used to allow _____ mobile users to share simultaneously a finite amount of radio spectrum.

Option A:	Many
Option B:	One
Option C:	Two
Option D:	Ten-Fifteen
Q14.	Which of the following is not a standard of WLAN?
Option A:	HIPER-LAN
Option B:	HIPERLAN/2
Option C:	IEEE 802.11b
Option D:	AMPS
Q15.	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
Q16.	What is the nominal range of Bluetooth?
Option A:	1 Km
Option B:	10 m
Option C:	1m
Option D:	10Km
Q17.	In ad-hoc networks, the complexity of each node is higher because every node has to implement _____
Option A:	users location
Option B:	mechanisms to handle voice and data
Option C:	medium access mechanisms
Option D:	quality of communication
Q18.	In IEEE 802.11 ESSID is the ‘name’ of a network and is used to _____
Option A:	combined different networks
Option B:	separate different networks
Option C:	communicate different networks
Option D:	provide services to different networks
Q19.	IPv6 has a larger address space of _____
Option A:	2^16
Option B:	2^128
Option C:	2^32

Option D:	2^8
Q20.	In practical IPv6 application, a technology encapsulates IPv6 packets inside IPv4 packets, this technology is called _____
Option A:	Tunneling
Option B:	Hashing
Option C:	Routing
Option D:	NAT
Q21.	Fast Handover Mobile IPv6 (FMIPv6) reduces long handover latency by:
Option A:	Fast Movement Detection, Fast Binding Update, acquiring COA on anticipation
Option B:	Slow Movement Detection, Slow Binding Update , acquiring COA not on anticipation
Option C:	Soft Handover
Option D:	Fast Movement Detection, Fast Binding Update, non anticipation based COA acquiring
Q22.	What type of handovers is supported by LTE?
Option A:	Soft handover only
Option B:	Hard handover only
Option C:	Hard and Soft handover
Option D:	No handover support
Q23.	What is the average uploading speed of 4G LTE network?
Option A:	2-5 Mbps
Option B:	1-3 Gbps
Option C:	2-5 Gbps
Option D:	1-3 Mbps
Q24.	Data rate of LTE-A is
Option A:	4 times LTE
Option B:	3 times LTE
Option C:	5 times LTE
Option D:	2 times LTE
Q25.	SON is
Option A:	Plug n play functionality
Option B:	Easy functionality
Option C:	Moderate functionality
Option D:	Complex functionality

University of Mumbai

Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering
Curriculum Scheme: Rev2016
Examination: Final Year Semester VII
Course Code: **CSDLO7032** and Course Name: Big Data & Analytics
Time: 1-hour Max. Marks: 50

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

Q1.	Which of the following is example of structured data?
Option A:	Media and entertainment data
Option B:	Audio data
Option C:	video data
Option D:	Transactional data
Q2.	Which one of the following options is not part of the three Vs of big data?
Option A:	Volume
Option B:	velocity
Option C:	Vitality
Option D:	Variety
Q3.	Concerning the Forms of Big Data, which one of these is odd?
Option A:	Structured
Option B:	Unstructured
Option C:	Processed
Option D:	Semi-Structured
Q4.	Hadoop is affordable because of
Option A:	parallelism
Option B:	inexpensive commodity hardware
Option C:	master-slave architecture
Option D:	online analytical processing
Q5.	If in HDFS architecture, a 1GB stream of data is broken up into 8 blocks. What will be size of each block?
Option A:	64 MB
Option B:	128MB
Option C:	192 MB
Option D:	256 MB
Q6.	Which of the following is default replication factor for HDFS file system in Hadoop ?
Option A:	1
Option B:	2
Option C:	3
Option D:	4

Q7.	Source of HDFS architecture in Hadoop originated as which of the following
Option A:	Google distributed filesystem
Option B:	Yahoo distributed filesystem
Option C:	Amazon Distributed File System
Option D:	Facebook Distributed File System
Q8.	What is the full form of YARN?
Option A:	Yet Another Resource Network
Option B:	Yet Another Relational Negotiator
Option C:	Yet Another Resource Negotiator
Option D:	Yet Another Relational Network
Q9.	Which function will associate the value with the key?
Option A:	Get(key)
Option B:	Put(key, value)
Option C:	Multi-get(key1,key2,….,keyN)
Option D:	Delete(key)
Q10.	Which of the following is not an example of a NoSQL database?
Option A:	CouchDB
Option B:	MongoDB
Option C:	HBase
Option D:	PostgreSQL
Q11.	Point out the wrong statement:
Option A:	Non-Relational databases require that schemas be defined before you can add data
Option B:	NoSQL databases are built to allow the insertion of data without a predefined schema
Option C:	NoSQL is a set of concepts that allows the rapid and efficient processing of datasets with a focus on scalability, performance
Option D:	Developed to handle large amount of data that need to be frequently accessed and processed.
Q12.	Which of the following statements about data streaming is true?
Option A:	Stream data is always unstructured data.
Option B:	Stream data often has a high velocity.
Option C:	Stream elements cannot be stored on disk.
Option D:	Stream data is always structured data.
Q13.	Which of the following statements about sampling are correct? _____
Option A:	Sampling reduces the amount of data fed to a subsequent data mining algorithm
Option B:	Sampling reduces the diversity of the data stream
Option C:	Sampling increases the amount of data fed to a data mining algorithm
Option D:	Sampling algorithms often need multiple passes over the data

Q14.	In FM algorithm we shall use estimate.....for the number of distinct elements seen in the stream.
Option A:	2 to the power R
Option B:	3 to the power R
Option C:	2R
Option D:	3R
Q15.	The FM-sketch algorithm uses the number of zeros the binary hash value ends in to make an estimation. Which of the following statements is true about the hash tail?
Option A:	Any specific bit pattern is equally suitable to be used as hash tail.
Option B:	Only bit patterns with more 0's than 1's are equally suitable to be used as hash tails.
Option C:	Only bit patterns with more 0's than 1's are equally suitable to be used as hash tails.)
Option D:	Only the bit pattern 0000000..00 (list of 0s) is a suitable hash tail.
Q16.	Which attribute is _not_ indicative for data streaming?
Option A:	Limited amount of memory
Option B:	Limited amount of processing time
Option C:	Limited amount of input data
Option D:	Limited amount of processing power
Q17.	A Bloom filter guarantees no
Option A:	false positives
Option B:	false negatives
Option C:	false positives and false negatives
Option D:	false positives or false negatives, depending on the Bloom filter type
Q18.	CURE stands for
Option A:	Clustering Using Repeaters
Option B:	Cloud Using Representatives
Option C:	Clustering Using Representatives
Option D:	Cloud Using Routers
Q19.	Which of the following is similar to Euclidean distance?
Option A:	Manhattan distance
Option B:	Pythagoras metric
Option C:	Chebyshev distance
Option D:	Heuristic distance
Q20.	d(x, y) < d(x, z) + d(z, y) ,This fuction means:
Option A:	Non-negativity
Option B:	Identity
Option C:	Symmetry

Option D:	Triangle inequality
Q21.	To combat term spam, Google introduced two innovations:
Option A:	PageRank was used to simulate and the terms used in or near the links to that page
Option B:	Serializability and Synchronization
Option C:	Machine Learning and Deep Learning.
Option D:	Clustering and Classification
Q22.	The main task of collaborative filtering can be categorized into two parts. Identify the correct statement related to each part.
Option A:	Look for users who share the same rating patterns with the active user
Option B:	Not using the ratings from those like-minded users found in previous to calculate a prediction for the active user.
Option C:	Build an item-item matrix determining relationships between pairs of items.
Option D:	Build a user-user matrix determining relationships between users
Q23.	Identify the correct recommendation system's algorithm(s) from given options.
Option A:	Collaborative page ranking
Option B:	Collaborative filtering
Option C:	Item based recommendation system
Option D:	Object based recommendation system
Q24.	Process that identifies dense sub graphs from social network graphs is called
Option A:	mining data stream
Option B:	Community Detection
Option C:	Clustering
Option D:	Map reduce
Q25.	In page Rank computation in a web a Dead Ends are the pages with no _____ in the web graph
Option A:	Trust Rank
Option B:	In links
Option C:	out links
Option D:	Hub Score

Program: BE Computer Engineering

Curriculum Scheme: Revised 2016

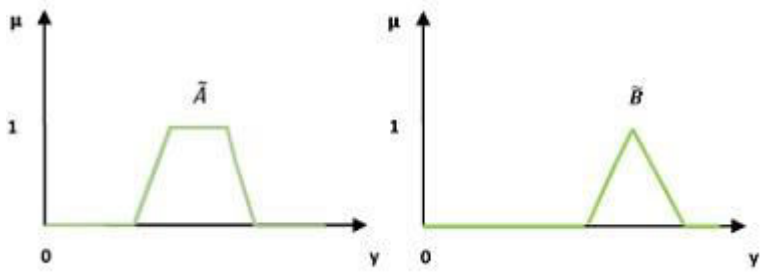
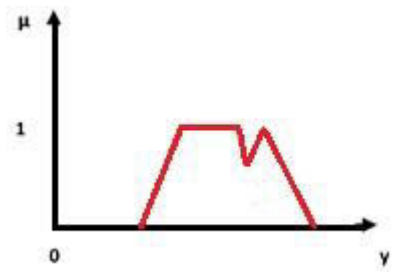
Examination: Final Year Semester VII

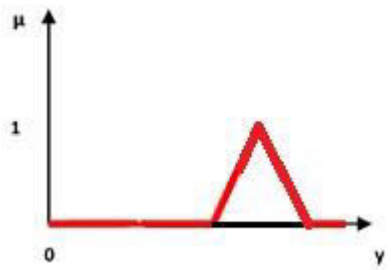
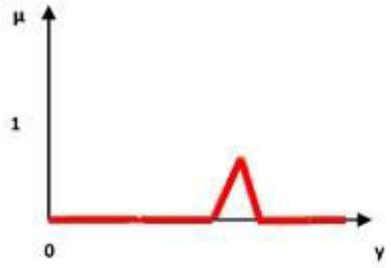
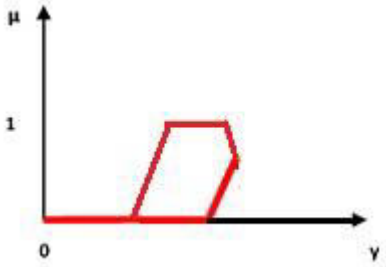
Course Code: CSDLO7033 and Course Name: Robotics

Time: 1 hour Max. Marks: 50

Q.1.	A robot manipulator is controlled by _____.
Option A.	Computer that runs a program
Option B.	Human who operates and controls the actuators
Option C.	Hardware Controller
Option D.	Changes in the Environment
Q.2.	Which type of robot's coordinate has two prismatic joints and one revolute joint for positioning the part, plus revolute joints for orientating the part?
Option A.	Cylindrical
Option B.	Cartesian
Option C.	Spherical
Option D.	Articulated
Q.3.	A robot with how many minimum degrees of freedom can place objects at any desired location and orientation?
Option A.	3
Option B.	4
Option C.	5
Option D.	6
Q.4.	In which programming mode, robot joints are moved simultaneously, while the motion is continuously sampled and recorded by the controller and during playback, the exact motion that was recorded is executed?
Option A.	Physical Setup
Option B.	Lead Through
Option C.	Continuous Walk-Through
Option D.	Logical setup
Q.5.	if all the robot joint variables are known, what can be calculated using forward kinematic equations.
Option A.	Position of Robotic arm
Option B.	Orientation of Robotic arm
Option C.	Position and Orientation of Robotic arm
Option D.	Either position or Orientation
Q.6.	Which vector is aligned along with the Tool Roll axis and always point away from the wrist.
Option A.	Normal
Option B.	Approach
Option C.	Sliding
Option D.	Orthogonal
Q.7.	A vector is described as P = 3i + 5j + 2k. Express the vector in matrix form to describe a direction as a unit vector.
Option A.	$[\ 0.42\ 0.403\ 0.152\ 0\ ]^T$
Option B.	$[\ 0.87\ \ 0.811\ 0.324\ 0\ ]^T$
Option C.	$[\ 0.87\ \ 0.411\ 0.324\ 0]^T$
Option D.	$[\ 0.87\ \ 0.411\ 0.124\ 0\ ]^T$

Q.8.	A point]$p = [2\ 3\ 4\ ]^{\mathrm{T}}$ is attached to a rotating frame. The frame rotates by an angle 90 about the x-axis of the reference frame. Find the coordinates of the point relative to the reference frame after rotation.
Option A.	$[2\ \ 3\ \ -4\ ]^T$
Option B.	$[2\ \ 4\ \ \ -3]^T$
Option C.	$[2\ \ -4\ 3\ ]^T$
Option D.	$[-2\ 4\ \ 3\ ]^T$
Q.9.	A sensor is a device that converts -------
Option A.	Physical quantity into measurable signals
Option B.	Physical quantity into mechanical signal
Option C.	Electrical signal into physical quantity
Option D.	Physical quantity into electrical signal
Q.10.	Which of the following is correct for tactile sensors?
Option A.	Touch sensitive
Option B.	Pressure sensitive
Option C.	Input voltage sensitive
Option D.	Humidity sensitive
Q.11.	The ability to give same output reading when same input value is applied repeatedly is known as -------
Option A.	Stability
Option B.	Repeatability
Option C.	Accuracy
Option D.	Sensitivity
Q.12.	Any radiation of appropriate wavelength fall on the depletion layer of p-n junction develops a potential difference between the junction is working principle of -------
Option A.	Hall Effect sensor
Option B.	Proximity sensor
Option C.	Light sensor
Option D.	Touch Sensor
Q.13.	Reactive robotic systems have no memory, thus limits reactive behaviours to what biologists would call --------.
Option A.	pure stimulus-response reflexes
Option B.	action-condition reflexes
Option C.	fixed-action pattern type of response
Option D.	real time reflexes
Q.14.	Following is not method of path planning:
Option A.	Visibility graph
Option B.	Voronoi graphs
Option C.	Bug algorithm
Option D.	Task planning
Q.15.	A reactive robotic system tightly couples ---------- without the use of intervening abstract representations or time history
Option A.	action to perception
Option B.	perception to action
Option C.	behaviour to perception
Option D.	behaviour to action
Q.16.	Following is the weakness of subsumption architecture:
Option A.	Hardware retargetability
Option B.	Support for parallelism

Option C.	Niche targetability
Option D.	Run time flexibility
Q.17.	------ can be generated by decomposing the general problem into a number of simpler sub-problems.
Option A.	Generalized Voronoi diagrams
Option B.	Configuration
Option C.	Configuration space
Option D.	State space
Q.18.	A binary image that has only two levels, ------ ------.
Option A.	Red and blue
Option B.	Red and green
Option C.	Blue and white
Option D.	Black and white
Q.19.	One limitation of template matching is that ---------
Option A.	The two images being compared should have same average intensities.
Option B.	The two images being compared should have same average contrast.
Option C.	The two images being compared should have same average intensities and contrast.
Option D.	The two images being compared should have different average intensities.
Q.20.	Swell operator is -------- of shrink operator.
Option A.	binary
Option B.	duel
Option C.	simplex
Option D.	duplex
Q.21.	Advantage of the chain code representation of a curve is that it is ------- representation, whereas a list of coordinates is an ----- representation.
Option A.	absolute, relative
Option B.	relative, absolute
Option C.	transitive, absolute
Option D.	relative, transitive
Q.22.	Intersection of following fuzzy set is: 
Option A.	

Option B.	
Option C.	
Option D.	
Q.23.	Let $\tilde{A}$, $\tilde{B}$ and $\tilde{C}$ three fuzzy sets and if $\tilde{A} \subseteq \tilde{B}$ and $\tilde{B} \subseteq \tilde{C}$ then $\tilde{A} \subseteq \tilde{C}$. This property is called ------
Option A.	Involution Property
Option B.	Idempotency Property
Option C.	Transitive Property
Option D.	Distributive Property
Q.24.	The ------- is known as the brain of the expert system
Option A.	Knowledge base
Option B.	inference engine
Option C.	user interface
Option D.	Controller
Q.25.	Following is not characteristic of an expert system:
Option A.	High performance
Option B.	Understandable
Option C.	Reliable
Option D.	Less responsive

University of Mumbai

Examination 2020 under cluster

Program: BE _____ Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: ILO 7017 and Course Name: Disaster Management and

Mitigation Measures

Time: 1 hour Max. Marks: 50

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

Q1.	_____ can be explained as, tragic set of events which consequently cause damage to property and life?
Option A:	Hazards
Option B:	Vulnerability
Option C:	Disaster
Option D:	Risk
Q2.	Which natural disaster is a sudden and violent shaking of the ground, sometimes causing great destruction, as a result of movements within the earth's crust or volcanic action?
Option A:	Earthquake
Option B:	Tsunami
Option C:	Thunderstorm
Option D:	Flooding
Q3.	Which of the following is not a component of disaster management cycle?
Option A:	Preparedness
Option B:	Response
Option C:	Construction
Option D:	Recovery
Q4.	What is EMS?
Option A:	Emergency medical services
Option B:	Effective mitigation system
Option C:	Emergency management system
Option D:	Effective management system
Q5.	N.D.R.F Stands for
Option A:	National Disaster Response Fund
Option B:	Natural Disaster Relief Fund
Option C:	National Dedicated Relief Fund
Option D:	National Dynamic Response Fund
Q6.	Risk can be dealt with following ways except:

Option A:	Risk acceptance
Option B:	Risk avoidance
Option C:	Risk reporting
Option D:	Risk reduction
Q7.	Which of the following is not a man-made hazard?
Option A:	Leakage of Toxic waste
Option B:	War
Option C:	Drought
Option D:	Environmental Pollution
Q8.	Which of the following are not the causes of manmade disaster?
Option A:	Technological
Option B:	Transportation
Option C:	Landslides
Option D:	Production errors
Q9.	Who heads the crisis management Committee
Option A:	Prime Minister
Option B:	President
Option C:	Cabinet Secretory
Option D:	Ministry Of Environment
Q10.	EMS technology helps in aread which are prone to effective disaster management except:
Option A:	Trials of evacuation and general disaster plans
Option B:	Training volunteers
Option C:	Construction of shelter
Option D:	Prevention of next emergency
Q11.	What is called for the manuals that identify the role of each officer in State for managing the natural disasters?
Option A:	State Relief Manuals
Option B:	State Environmental Protection Manuals
Option C:	State Disaster Manuals
Option D:	State Protection Manuals
Q12.	The risk mapping and control does not depend on:
Option A:	The efforts taken by an organization
Option B:	Money
Option C:	Vulnerability analysis
Option D:	The action plans
Q13.	Tsunami's can occur only during
Option A:	Evening
Option B:	Afternoon
Option C:	Any time of the day or night
Option D:	Morning

Q14.	Under which ministry Disaster Management Authority comes
Option A:	Ministry Of Environment
Option B:	Ministry of Foreign Affaires
Option C:	Ministry of Pollution
Option D:	Ministry of Home Affairs
Q15.	Which of the following components is not the part of EMS?
Option A:	Communication
Option B:	Recovery
Option C:	Budget
Option D:	Materials requirement
Q16.	Which the first step adopted for the assessment of the requests made by the state government to CENTRAL Government.
Option A:	Central Govt directly sends funds to State Govt
Option B:	The central team is deputed to make the on the spot assessment
Option C:	Finance Ministry Guides Cental Govt to relese funds
Option D:	Union Home Secretary visits State Govt affected by Disaster
Q17.	What is CBDM?
Option A:	Customers biased disaster management
Option B:	Cluster based disaster management
Option C:	Community based disaster management
Option D:	Consumer based disaster management
Q18.	The Richter scale expresses an earthquakes
Option A:	Magnitude
Option B:	Location
Option C:	Duration
Option D:	Depth
Q19.	Who is not first responder
Option A:	Police
Option B:	SDRF
Option C:	Fire and Medical Services
Option D:	NDRF
Q20.	Which of the following component of EMS does not add a value to disaster management?
Option A:	Emergency medical services
Option B:	Hazardous Materials Management
Option C:	Prevention of disaster
Option D:	Response and Recovery
Q21.	Prompt and effective response minimizes loss of life and property.
Option A:	Prompt and effective response
Option B:	Resource Allocation

Option C:	Planning
Option D:	Financing
Q22.	Floods can be prevented by
Option A:	Afforestation
Option B:	Cutting the forest
Option C:	Tilling the land
Option D:	Removing the top soil
Q23.	Which amongst the following ensures accurate documentation of all aspects of disaster events for creating good historical records for future research and mitigation planning
Option A:	NDMA
Option B:	MoUD
Option C:	NDRF
Option D:	NIDM
Q24.	The point of the earth's surface directly above the point where an earthquake occurs is called
Option A:	Focus
Option B:	Epicenter
Option C:	Fracture
Option D:	Fault
Q25.	Which committee recommend financial assistance to various disaster acrros country
Option A:	National Executive Committee
Option B:	Finance Committee
Option C:	Central Committee
Option D:	Cabinet Committee

University of Mumbai

Examination 2020

Program: _____

Curriculum Scheme: Rev 2016

Examination: Semester VII

Course Code: ILO7012 and Course Name: Reliability Engineering

Time: 1 hour Max. Marks: 50

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

Q1.	If A and B are two events such that P(a) =0.3, P(b) = 0.6, and P(A/~B) is _____
Option A:	0.3
Option B:	0.5
Option C:	0.8
Option D:	0.2
Q2.	Previous probabilities in Bayes Theorem that are changed with help of new available information are classified as _____
Option A:	Independent Probabilities
Option B:	Posterior probabilities
Option C:	Interior probabilities
Option D:	Dependent probabilities
Q3.	Let X be a random variable with probability distribution function f(x)=0.2 for |x|<1 =0.1 for 1<|x|<4 =0 otherwise The probability P(0.5 < x <5) is _____
Option A:	0.3
Option B:	0.5
Option C:	0.4
Option D:	0.8

Q4.	If 'm' is the mean of a Poisson Distribution, the standard deviation is given by _____.
Option A:	$\sqrt{m}$
Option B:	m^2
Option C:	m
Option D:	$\frac{m}{2}$
Q5.	What is the mean time to failure if time to failure of a gadget follows Weibull distribution with scale =1000 hours and shape = 0.5?
Option A:	2500 hours
Option B:	1500 hours
Option C:	3000 hours
Option D:	2000 hours
Q6.	The failure density function f(t) is defined as the derivative of the
Option A:	Failure probability
Option B:	Intensity
Option C:	Pass probability
Option D:	Density
Q7.	Mean time between failures can be defined as:
Option A:	$\frac{total\ number\ of\ failure}{total\ operation\ time}$
Option B:	$\frac{total\ operation\ time}{total\ number\ of\ failure}$

Option C:	$\frac{total\ operation\ time}{total\ number\ of\ components}$
Option D:	$\frac{total\ number\ of\ components}{total\ operation\ time}$
Q8.	A component with time to failure T has constant failure rate $z(t) = \lambda = 2.5 \times 10^{-5}[hours]^{-1}$ Determine the probability that the component survives a period of 2 months without failure.
Option A:	0.815
Option B:	0.965
Option C:	0.911
Option D:	0.864
Q9.	The system reliability of the parallel system
Option A:	Is greater than the reliability of any subsystem
Option B:	Is equal to the reliability of the best subsystem
Option C:	Decreases as more redundant subsystem are added to the system
Option D:	Increase if the subsystem with the lowest reliability is removed
Q10.	Consider a four component system of which the components are independent and identically distributed with Constant Failure Rate (CFR). If $R_2(100) = 0.95$, find the individual component Mean Time to Failure?
Option A:	0.128
Option B:	0.0128
Option C:	0.000128
Option D:	1

Q11.	What failure rate must each component of a series system have, so that the probability that the system operates beyond 1000 hours is 0.9917 (Assume that all three components are independent, operate simultaneously, and have identical constant failure rates.)
Option A:	0.00278 per hour
Option B:	2.78×10^{-6} per hour
Option C:	2.78×10^{-5} per hour
Option D:	0.0287 per hour
Q12.	The components each with a reliability of 0.9 are placed in series. What is the reliability of the system?
Option A:	0.729
Option B:	0.986
Option C:	0.458
Option D:	0.589
Q13.	If the probability of a car starting on a sub-zero morning is 0.5 and we have two such cars. What is the probability that at least one of the cars will start on a sub-zero morning?
Option A:	0.92
Option B:	0.75
Option C:	0.81
Option D:	0.60
Q14.	Calculate the system unavailability, if the failure rate of a system is 2 failures/year and the average repair time is 20 hours.
Option A:	14.97 hr/yr
Option B:	18.47 hr/yr
Option C:	39.81 hr/yr

Option D:	32.17 hr/yr
Q15.	Which of the following approach is not the redundancy approach?
Option A:	Unit redundancy
Option B:	Component redundancy
Option C:	Strong component should be identified and strengthened for reliability
Option D:	Mixed redundancy
Q16.	For the successful operation of the system, the reliability of the system will be much better due to _____
Option A:	Absence of redundant element and proper operation one element
Option B:	Presence of redundant element and improper operation one element
Option C:	Absence of redundant element and improper operation one element
Option D:	Presence of redundant element and proper operation one element
Q17.	In unit redundancy, for improving the reliability of the system, a similar system should be added to the existing system in _____
Option A:	Series
Option B:	Both series and parallel
Option C:	parallel
Option D:	No connection
Q18.	Redundant system consisting of two or more component connected in parallel and both components were operating simultaneously is called _____
Option A:	Standby redundancy
Option B:	Active redundancy
Option C:	Sitting redundancy
Option D:	Inactive redundancy

Q19.	In order to maintain maintainability in the system, repair time must _____
Option A:	Be increased
Option B:	Be reduced
Option C:	Be kept constant
Option D:	Keeps on changing
Q20.	While discussing the concept of parts interchangeability, "if new part does not meet the required functional substitution then,
Option A:	It should be fractionally interchangeability
Option B:	It should not be physically interchangeability
Option C:	It should be physically interchangeability
Option D:	It should not be fractionally interchangeability
Q21.	The inherent availability can be calculated for repairable system as:
Option A:	$A_I = \frac{MTBF}{MTTF + MTTR}$
Option B:	$A_I = \frac{MTTF}{MTTF + MTTR}$
Option C:	$A_I = \frac{MTTF}{MTBF + MTTR}$
Option D:	$A_I = \frac{MTTF}{MTTF + MTTR}$
Q22.	Risk priority number is
Option A:	Product of severity (S), Occurrence (O) & Detection (D)
Option B:	Sum of severity (S), Occurrence (O) & Detection (D)

Option C:	Maximum of Severity (S), Occurrence (O) & Detection (D)
Option D:	Minimum of Severity (S), Occurrence (O) & Detection (D)
Q23.	Failure mode and effect analysis (FMEA) provide a checklist procedure. Which of the following question is NOT likely to feature on the checklist?
Option A:	What would be the cost of avoiding failure be?
Option B:	How likely is such a failure to be detected before it affects the customer?
Option C:	What is the likelihood that failure will occur?
Option D:	What would the consequences of the failure be?
Q24.	Which of the following is not the advantage of Event Tree Analysis are:
Option A:	Structured, rigorous and methodical approach
Option B:	Can be effectively performed on varying levels of design detail
Option C:	Permits probability assessment
Option D:	Partial successes/failure are distinguishable
Q25.	What is the probability of an impossible event?
Option A:	0
Option B:	1
Option C:	Not defined
Option D:	Insufficient data

University of Mumbai
Online Examination 2020

Program: BE Engineering
Curriculum Scheme: R-2016
Examination: Final Year Semester VII
Course Code: ILOC 7015 Course Name: Operations Research
Time: 1 hour Max. Marks: 50

Question Paper Set No._01

Note: Each question is for 2 marks.

		Multiple Choice Questions (MCQ)
		ALL questions are compulsory. There are 25 questions, each question carries 2 mark.
1.	Queuing models measure the effect of:	
	a)	Random arrivals
	b)	Random service
	c)	Effect of uncertainty on the behaviour of the queuing system
	d)	Length of queue.
2.	If the number of arrivals during a given time period is independent of the number of arrivals that have already occurred prior to the beginning of time interval, then the new arrivals follow ----------distribution.	
	a)	Erlang
	b)	Poisson
	c)	Exponential
	d)	Normal
3.	An M/M/8 system is a system with --	
	a)	Generic M channel system, exponential arrivals, and Poisson service time.
	b)	Eight channel system, Poisson arrivals, and Exponential service time.
	c)	M channel system with Exponential arrivals and Poisson service times.
	d)	Eight channel system with Binomial arrival times and normally distributed service times
4.	As simulation is not analytical model, therefore result of simulation must be viewed as	
	a)	Unrealistic
	b)	Exact
	c)	approximation
	d)	simplified
5.	Monto-Carlo simulation	
	a)	Randomness is the key requirement
	b)	The model is of deterministic nature
	c)	The random numbers can be used to generate the value of input variables only, if the sampled distributed is uniform
	d)	None of these
6.	While assigning random numbers in Monte-Carlo simulation, it is	
	a)	Not necessary to assign the exact range of random number interval as the probability
	b)	Necessary to develop a cumulative probability distribution
	c)	Necessary to assign the particular appropriate random numbers
	d)	Not necessary to develop a cumulative probability distribution

7.	Which of the following is a property of a dynamic programming problem?	
	a)	Optimal substructure
	b)	Non-Overlapping sub problems
	c)	Local Optimal choice
	d)	The given problem can be reduced to the 3-SAT problem
8.	When a problem is solved using the top-down approach of dynamic programming, it usually …….	
	a)	Decreases both, the time complexity and the space complexity
	b)	Increases the time complexity and decreases the space complexity
	c)	Increases both, the time complexity and the space complexity
	d)	Increases the space complexity and decreases the time complexity
9.	Which of the following problems should be solved using dynamic programming?	
	a)	Long Integer Multiplication
	b)	Reliability problems
	c)	Spanning Tree
	d)	Matrix Multiplication
10.	When Minimax and Maximin criteria matches, then	
	a)	Fair game is exists
	b)	Unfair game is exists
	c)	Mixed strategy exists
	d)	Saddle point exists.
11.	The games with saddle points are:	
	a)	Probabilistic in nature
	b)	Normative in nature
	c)	Stochastic in nature
	d)	Deterministic in nature
12.	The size of the Payoff matrix of a game can be reduced by using the principle of	
	a)	Saddle point
	b)	Dominance
	c)	Game transpose
	d)	Game Inverse
13.	If orders are placed with size the EOQ, then the re-order costs component is	
	a)	Equal to the holding cost component
	b)	Greater than the holding cost component
	c)	Less than the holding cost component
	d)	Either greater or less than the holding cost component
14.	Which cost can vary with order quantity	
	a)	Unit cost only
	b)	Re-order cost
	c)	Holding cost only
	d)	All of these
15.	Annual demand for product costing Rs. 100 per piece is Rs. 900 Ordering cost per order is Rs. 100 and inventory holding cost is Rs.2 per unit per year. The economic lot size is	
	a)	200
	b)	300
	c)	400
	d)	500
16.	Consider the following 7 jobs J1, J2, J3, J4, J5, J6 and J7. They are processed on machines A and B in the order AB. The processing times on machine A for the 7 jobs are	

	[3, 12, 13, 4, 10, 11, 9] and the processing times on machine B for the 7 jobs are [8, 9, 8, 6, 13, 1, 3]. The optimum sequence of the jobs will have the first job going to machine A as -	
	a)	J1
	b)	J3
	c)	J7
	d)	J6
17.	Travelling Salesman Problem can be solved using: a-Simplex Method, b-Assignment Method, c-Dynamic Programming, d- Waiting line Method	
	a)	Only a
	b)	Only b
	c)	Only c
	d)	With b and d
18.	The Vogel approximation method is used for solving transportation problems as it gives -	
	a)	neither optimum nor feasible solution
	b)	both optimum and feasible solution
	c)	Optimum but infeasible solution
	d)	Feasible but non-optimum solution
19.	In the Dual Simplex Method, the Initial Table represents a solution -	
	a)	that is feasible but not Optimal
	b)	that is both feasible and optimal
	c)	that is optimal but not feasible
	d)	neither optimal nor feasible
20.	For a Maximization LPP, if a constraint has a surplus variable, the artificial variable added in the Dual Simplex Method will have -	
	a)	positive large co-efficient in the objective function
	b)	negative large co-efficient in the objective function
	c)	zero co-efficient in the objective function
	d)	artificial variables are not required in Dual Simplex Method
21.	If the primal LPP is Maximization, the dual of the dual for the primal LPP is	
	a)	Minimization
	b)	Maximization
	c)	Can be Minimization or Maximization
	d)	Infeasible
22.	The optimal solution in a linear programming model will	
	a)	always be a slack variable
	b)	always be a surplus variable
	c)	always occur at an extreme point
	d)	always be outside the feasible solution space
23.	A company produces two products: Product A and Product B. Each product must go through two processes. Each Product A produced requires 2 hours in Process 1 and 5 hours in Process 2. Each Product B produced requires 6 hours in Process 1 and 3 hours in Process 2. There are 80 hours of capacity available each week in each process. Each unit of Product A produced generates $6.00 in profit for the company. Each unit of Product B produced generates $9.00 in profit for the company. If A = the number of units of Product A to produce each week and B = number of units of Product B to produce each week, then the capacity constraint for Process 2 would be	
	a)	$5A + 3B \geq 80$
	b)	$6A + 3B \leq 80$
	c)	$5A + 3B \leq 80$
	d)	$5A + 3B < 80$

24.	A company produces two products: Product A and Product B. Each product must go through two processes. Each Product A produced requires 2 hours in Process 1 and 5 hours in Process 2. Each Product B produced requires 6 hours in Process 1 and 3 hours in Process 2. There are 80 hours of capacity available each week in each process. Each unit of Product A produced generates $6.00 in profit for the company. Each unit of Product B produced generates $9.00 in profit for the company. The optimal weekly profit for the company would be	
	a)	$125
	b)	$150
	c)	$156
	d)	$162
25.	The following transportation table shows the cost of shipping one unit from each source to each destination in the upper right hand corner of each cell, as well as the supply capacities and demand requirements:	

		Destination			
		Los Angeles	New York	Houston	Supply
Source	Memphis	5	4	2	6,000
	Boise	3	6	4	3,000
	Omaha	6	5	3	8,000
	Demand	5,000	7,500	4,500	17,000

The optimal solution is:

		Destination		
		Los Angeles	New York	Houston
Source	Memphis	**0**	**1500**	**4500**
	Boise	**3000**	**0**	**0**
	Omaha	**2000**	**6000**	**0**

The total amount shipped from Boise to Los Angeles is:

	a)	3
	b)	6
	c)	3,000
	d)	5,000

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University of Mumbai

Examination 2020 under cluster

Program: BE Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: ILO7018 and Course Name: Energy Audit and Management

Time: 1 hour Max. Marks: 50

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

Q1.	Choose the correct source of renewable energy.
Option A:	Natural gas
Option B:	Coal
Option C:	Tidal
Option D:	Nuclear
Q2.	Primary energy content of all fuels are generally expressed in terms of
Option A:	KW
Option B:	KVA
Option C:	KVAR
Option D:	Ton of oil equivalent (toe)
Q3.	Which of the following is a form of secondary energy?
Option A:	Steam
Option B:	Petrol
Option C:	Crude oil
Option D:	Coal
Q4.	The objective of Energy Management is to
Option A:	Minimize energy costs
Option B:	Minimize production
Option C:	Minimize duration of work
Option D:	Minimize manpower
Q5.	Energy Audit is the key to a systematic approach for decision-making in the area of
Option A:	Time management
Option B:	Water management.
Option C:	Pollution management
Option D:	energy management
Q6.	The verification, monitoring and analysis of use of energy and its report with recommendations is
Option A:	Energy monitoring

Option B:	Energy Conservation
Option C:	Energy Audit
Option D:	energy management
Q7.	Bench-mark in Energy Audit refers to:
Option A:	Trend of energy use
Option B:	Profit margin in energy business
Option C:	Reference point for managing energy in organization
Option D:	Energy Losses
Q8.	Energy Audit can be classified into the following types.
Option A:	Short Audit and Lengthy Audit
Option B:	Preliminary Audit and Secondary Audit
Option C:	Feasible Audit and non-feasible Audit
Option D:	Preliminary Audit, targeted energy audit and Detailed Audit
Q9.	For charging Maximum demand charges, maximum demand is measured in
Option A:	kWh
Option B:	kVA
Option C:	kVAr
Option D:	KV
Q10.	Power factor is ratio of
Option A:	Active power to apparent power
Option B:	Active power to reactive power
Option C:	Reactive power to apparent power
Option D:	Apparent power to active power
Q11.	Maximum demand controller is used to
Option A:	Switch off non-essential loads in a logical sequence
Option B:	Controls the power factor of the plant
Option C:	Switch off essential loads in a logical sequence
Option D:	Exceed the demand of the plant
Q12.	For which among the following consumers was penalty imposed for low power factor before 1st April, 2020
Option A:	Residential
Option B:	Industrial
Option C:	Agricultural
Option D:	BPL customers
Q13.	The basic functions of electronic ballast exclude one of the following:
Option A:	To ignite the lamp
Option B:	To reduce lumen output of the lamp
Option C:	To supply power to the lamp

Option D:	To stabilize the gas discharge
Q14.	Find the **odd** retrofit group for illumination from the following
Option A:	capacitor based control
Option B:	photo-sensors
Option C:	timer based control
Option D:	Occupancy sensors
Q15.	Motor loading calculation is based on
Option A:	Ideal load of motor
Option B:	actual operating load of motor
Option C:	90 % load of motor
Option D:	future load of the motor
Q16.	The motor input power Pi in pump can be measured by using
Option A:	Stroboscope
Option B:	Efficiency meter
Option C:	Portable power analyzer.
Option D:	Tachometer
Q17.	One Tons of refrigeration (TR) is equivalent to
Option A:	3420 Btu/h
Option B:	3024 kCal/h
Option C:	1200 thermal kW
Option D:	3024 kW/ton
Q18.	What does a LEED rating reflect?
Option A:	The cost of a building
Option B:	How green a building is
Option C:	The carbon footprint of a building's occupants
Option D:	The location of a building
Q19.	What is the name for the procedure used to clear buildings of contaminants before they are occupied?
Option A:	Flush-out
Option B:	Infiltration
Option C:	Ventilation
Option D:	Ex-filtration
Q20.	Which of the following trap has intermittent discharge for large load
Option A:	Inverted bucket
Option B:	Float
Option C:	Thermostatic
Option D:	Bimetallic

Q21.	Which is the best steam for an industrial process heating
Option A:	Dry saturated steam
Option B:	Wet steam
Option C:	Dry steam
Option D:	Superheated steam
Q22.	Which one is the most efficient equipment having Star rating
Option A:	2 star
Option B:	5 star
Option C:	4 star
Option D:	1 star
Q23.	Which one is NOT the reason of incomplete combustion
Option A:	Shortage of air
Option B:	Excess of fuel
Option C:	Poor distribution of fuel
Option D:	GCV of fuel
Q24.	The heat loss from the surface is expressed in
Option A:	Watt
Option B:	Watt/sq. meter-deg K
Option C:	Watt/sq. meter-deg C
Option D:	Joules
Q25.	Which is the purpose of insulation
Option A:	To facilitate free flow of heat
Option B:	Offers better process control by maintaining process temperature
Option C:	Reduce temperature of steam
Option D:	Refrigerated surface below due point

University of Mumbai

Examination 2020 under cluster

Program: BE____ _____ Engineering
Curriculum Scheme: Rev2016
Examination: Fourth Year Semester VII
Course Code: ILO7011 and Course Name: Product Life Cycle Management
Time: 1hour Max. Marks: 50

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

Q1.	The PLC describes the stages a new product goes through in the---
Option A:	Introduction phase
Option B:	Test Market
Option C:	Product Development
Option D:	Market Place
Q2.	In introduction stage of PLC sales grow slowly and
Option A:	Competition becomes tough
Option B:	Profit is Minimal
Option C:	More Investors needed
Option D:	Profit is Maximum
Q3.	Marketing Objective for the maturity stage of PLC is
Option A:	Maintain Brand Loyalty
Option B:	Stress Differentiation
Option C:	Harvest
Option D:	Deletion
Q4.	PLC stage where Competitors appears is
Option A:	Introduction phase
Option B:	Decline Phase

Option C:	Maturity
Option D:	Growth
Q5.	The stage when the cost of gaining new Buyers increases
Option A:	Growth
Option B:	Introduction
Option C:	Maturity
Option D:	Pre-Investment
Q6.	Color and size of the product, brand and packaging are considered as,
Option A:	Chemical features of product
Option B:	Physical features of product
Option C:	Product designing
Option D:	Product manufacture
Q7.	Developing a unique superior product with high quality, new features, and high value in use is _____ in new product development strategy.
Option A:	New product development process
Option B:	Typical reasons for failure
Option C:	Success factors
Option D:	Product concept
Q8.	Reason of product failure associated with its feature is due to,
Option A:	Good quality of product
Option B:	Good quantity of product
Option C:	Poor quality of product
Option D:	Poor quantity of product

Q9.	Which of the following is the first step of product development process?
Option A:	Production ramp-up
Option B:	Prototyping
Option C:	Product design
Option D:	Identification of customer needs
Q10.	In which of the following stage of Product Development Process, a detailed specification for the product development and pricing is established?
Option A:	Launch
Option B:	Testing
Option C:	Feature specification
Option D:	Idea screening
Q11.	Product data management is the activity of _____
Option A:	Managing product data.
Option B:	Invention data recording.
Option C:	Managing computer for data.
Option D:	Manipulation of data.
Q12.	A _____ is a high-level data model that shows, from the user viewpoint, the main entities and the relationships between them. It may also define the entities, and show their attributes and structure
Option A:	Physical data model
Option B:	Conceptual data model
Option C:	Entity-relationship model
Option D:	Logical data model

Q13.	A_____ is a very detailed model that is specific to the technology (e.g., database). It shows how the data will be physically stored and accessed.
Option A:	Logical data model
Option B:	Conceptual data model
Option C:	Physical data model
Option D:	Entity relationship model
Q14.	Virtual product development is the Practice of _____ and developing the products in entire 2D/3D environment
Option A:	prototyping
Option B:	producing
Option C:	protecting
Option D:	purchasing
Q15.	____ is not the component of virtual product development
Option A:	Virtual product design
Option B:	Virtual product simulation
Option C:	Virtual product manufacturing
Option D:	shop floor manufacturing
Q16.	_____is not a part of digital manufacturing
Option A:	virtual plant design
Option B:	virtual process planning
Option C:	virtual assembly visualization
Option D:	realistic manufacturing
Q17.	Sustainability Science is the study of the concepts of sustainable development and--------- ___ .

Option A:	Environmental Science
Option B:	General Science
Option C:	Social science
Option D:	Geo science
Q18.	UN decade of education for Sustainable development
Option A:	2002-11
Option B:	2003-12
Option C:	2004-13
Option D:	2005-14
Q19.	Number of sustainable development goals (SDGs) by UN are
Option A:	15
Option B:	16
Option C:	17
Option D:	18
Q20.	LCA stands for
Option A:	life cycle assessment
Option B:	life cycle analogy
Option C:	Life cycle assurance
Option D:	Life cycle Array
Q21.	Product is the ultimate objective of variety reduction
Option A:	Simplification
Option B:	Standardization
Option C:	Specialization
Option D:	Socialization

Q22.	An attractive idea must be developed into a
Option A:	Product idea
Option B:	product concept
Option C:	Test market
Option D:	Product image
Q23.	There are _____ basic components of an EDM/PDM system
Option A:	NINE
Option B:	SEVEN
Option C:	SIX
Option D:	FIVE
Q24.	Select suitable potential reasons why to implement PDM
Option A:	Data missing in hard drives, systems not responding, less data is stored
Option B:	Life cycle is managed, less systems available, data is sufficient
Option C:	Data is not centralized, CAD versions are not supported, messed up with data in mapping
Option D:	Data is available but extended facility is not existing.
Q25.	Select suitable reasons, so that PDM can lead to major benefits
Option A:	Huge investments may attract more profits
Option B:	Eases data availability, no data is missing, data storage is done
Option C:	Generates revenues, quality of product improves
Option D:	Reduces product development times by 25%, reduces cost by 15%.

University of Mumbai

Examination 2020 under cluster

Program: BE Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: **ILO7014** Course Name: **Design of Experiments**

Time: 1 hour Max. Marks: 50

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

Q1.	_____ is a vital part of the scientific (or engineering) method
Option A:	Evaluation
Option B:	Experimentation
Option C:	Estimation
Option D:	Authentication
Q2.	The general approach to planning and conducting the experiment is called the _____.
Option A:	Strategy of experimentation
Option B:	Method of experimentation
Option C:	Preparation of experimentation
Option D:	Outline of experimentation
Q3.	The basic principles of experimental design are____.
Option A:	Randomization, repetition, blocking
Option B:	Replication, blocking randomization
Option C:	Randomization, repetition, factorization
Option D:	Optimization, blocking, factorization
Q4.	Consider the mathematical model Y = f(x, z); $\Delta y = \frac{\partial f}{\partial x}\Delta x + \frac{\partial f}{\partial z}\Delta z$ now Determining the most influential variables on the response y is called
Option A:	Process control
Option B:	Robust design
Option C:	Process characterization
Option D:	Process optimization

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Q5.	The strategy which fails to consider any possible interaction between the factors is called
Option A:	Multiple factors at a time (MFAT)
Option B:	one-factor-at-a-time (OFAT)
Option C:	Best guess
Option D:	Best fit
Q6.	Which of the following is a correct expression for a multiple linear regression model having three regressor variables?
Option A:	$y = x_1 + \beta_2 x_2 + \beta_3 x_3 + \epsilon$
Option B:	$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \epsilon$
Option C:	$y = \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3$
Option D:	$y = \beta_0 - \beta_1 x_1 + \beta_2 x_2 - \beta_3 x_3 + \epsilon$
Q7.	The _____is typically used to estimate the regression coefficients in a multiple linear regression model.
Option A:	Method of least squares
Option B:	Method of Jacobians
Option C:	Runge-Kutta Method
Option D:	Method of Moments
Q8.	In multiple linear regression problems, certain _____ about the model parameters are helpful in measuring the usefulness of the model.
Option A:	tests of hypotheses
Option B:	tests of uniqueness
Option C:	tests of convergence
Option D:	tests of divergence
$Q9.$	How many dependent variables does a two-way ANOVA have?
Option A:	Four
Option B:	Two
Option C:	Three
Option D:	One
Q10.	The analysis of variance will have _____ parts
Option A:	One
Option B:	Three
Option C:	Two
Option D:	Four

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Q11.	In Split spot design, Randomization is done in _____ stages
Option A:	1
Option B:	2
Option C:	3
Option D:	4
Q12.	In field experiments certain factors may require _____ plots than for others.
Option A:	Lesser
Option B:	Same
Option C:	Larger
Option D:	Small
Q13.	The key idea used for the successful implementation of fractional factorial design are _____.
Option A:	Sparsity of effects principle, randomization, repetition
Option B:	Sparsity of effects principle, projection property, sequential experimentation
Option C:	Sparsity of effects principle, projection property, randomization
Option D:	Sparsity of effects principle, projection property, randomization, repetition
Q14.	When we estimate A, B, and C with complementary one-half fraction, we are really estimating _____.
Option A:	(A X BC, B X AC, C X AB)
Option B:	(A + BC, B + AC, C + AB)
Option C:	(A – BC, B – AC, C – AB)
Option D:	(A – BC, B X AC, C + AB)
Q15.	ANOVA is a statistical method of comparing the _____ of several populations
Option A:	Variance
Option B:	Standard deviations
Option C:	Means
Option D:	Mean deviation
Q16.	In a factorial experiment _____.
Option A:	Testing one factor at a time
Option B:	Cannot estimate interactions
Option C:	all possible combination of factor levels are tested
Option D:	Levels are not tested
Q17.	Factorial designs allow us to study both _____ effects of the independent variables on the dependent(s).
Option A:	Main and interactive

Option B:	Rank order and correlational
Option C:	Symbiotic and dichotomous
Option D:	Dependent and independent
Q18.	What statistical procedure is used to assess the statistical significance of the main effects and the interaction(s) in a factorial design?
Option A:	Analysis of covariance
Option B:	Correlation
Option C:	T-test
Option D:	Analysis of variance
Q19.	Which of the following item is required to be considered in logistics of testing?
Option A:	a plan to acquire materials needed for various test combinations
Option B:	regression model
Option C:	Taguchi Orthogonal Array
Option D:	missing runs
Q20.	Which of the following is an example of a plan for identifying results of the experimental trials?
Option A:	conducting missing trials
Option B:	tagging parts with trial and repetition numbers
Option C:	confounding
Option D:	preparing data sheets
Q21.	Large differences in results from trial to trial can happen in case of _____.
Option A:	good data sets
Option B:	bad data sets
Option C:	sample data sets
Option D:	attribute data sets
Q22.	Consistent results within a trial can be achieved with _____.
Option A:	good data sets
Option B:	bad data sets
Option C:	sample data sets
Option D:	conducting missing trials
Q23.	Which of the following is known as a structured approach for determining the ”best” combination of inputs to produce a product or service _____.
Option A:	Taguchi approach
Option B:	signal to noise ratio

Option C:	design of experiments
Option D:	linear regression
Q24.	The factors whose values are hard-to-control during normal process or use conditions are called as-
Option A:	control factors
Option B:	noise factors
Option C:	random factors
Option D:	robust factors
Q25.	Which of the following is not an example of common types of noise factors?
Option A:	environmental factors
Option B:	customer usage
Option C:	Degradation that occurs through usage and environmental exposure
Option D:	cake mixture ingredients