

University of Mumbai

Examination 2020 under cluster __ (Lead College: _____)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: _____

Curriculum Scheme: Rev2019/2016/2012 (Keep the required)

Examination: BE Semester VIII (Keep the Required)

Course Code: ILO8028 and Course Name: DBM

Time: 2 hour

Max. Marks: 80

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NOTE to the Question Paper Setter: (To be deleted before submitting the paper to Semester Coordinator)

1. The question paper will be of total **80 Marks and Two hours duration**. Out of which **40 marks will be of 20 MCQs** carrying two marks each covering all the modules of the syllabus. Remaining two questions carrying 20 marks each (Total **40 marks**) will be of **subjective/descriptive in nature** of 5 or 10 marks as per the requirement of the subject/course and covering all the modules of the syllabus.
2. Referring to setting up MCQs
 - a. You need to check the questions and their answers for their correctness. There should not be any ambiguity in the questions and the options. Only one option should be the Correct Answer.
 - b. Among **20 MCQs** (based on complete syllabus), 8 questions can be under the 'Simple' category, 6 questions can be under the 'Moderate' category, and the remaining 6 questions can be under the 'Difficult' category.
 - c. Please do not reveal answer on this Question Paper.
 - d. Use another template provided to enter the correct answers.
3. Referring to setting up subjective/descriptive questions
 - a. Internal options should be provided in the subjective questions i.e. in case of 5 marks question 3 or 6 questions to be asked, out of which students will solve any two or four respectively. In case of 10 marks questions, 2 or 3 questions to be asked out of which students will solve any one or two respectively.
 - b. The sub questions in Q2 and Q3 have to be set on multiple modules. The paper setter has to make sure that the maximum syllabus is covered while setting up the questions for Q2 and Q3.
 - c. Weightage of the questions has to be decided as per the requirement of the subject. 10 marks questions will only be asked on design orientated subjects or application orientated subjects.
 - d. Paper setters shall select any one option, while setting up the questions, suggested in the template for Q2 and Q3
4. Please save this file with file name as per the sample format given below:

File Name: "Date of Examination_Scheme_Program_Semester_Subject Code_QP Set Number"

For example:

QP set number 1 of Engineering Mathematics-I of First Year Semester I for Rev2019 scheme and scheduled on 7/01/2021 has to have the file name as

0701_R19_FE_I_FEC101_QP1

QP set number 1 of first core course of Mechanical Engineering Semester V for Rev2016 scheme and scheduled on 23/12/2020 has to have the file name as

2312_R16_Mech_V_MEC501_QP1

QP set number 3 of Department Level Optional Course of Computer Engineering Semester VI for Rev2012 scheme and scheduled on 3/01/2021 has to have the file name as

0301_R12_Comp_VI_CSDLO6021_QP3

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	In Network Security CIA stands for:
Option A:	Confidentiality, Integrity and Availability
Option B:	Central Investigation Agency
Option C:	Confidentiality, Intelligence and Accountability
Option D:	Cryptographic Intelligent Algorithm
2.	Which one of the following is not a higher –layer SSL protocol?
Option A:	Alert Protocol
Option B:	Handshake Protocol
Option C:	Alarm Protocol
Option D:	Change Cipher Spec Protocol
3.	A packet filter firewall filters at _____
Option A:	Physical layer
Option B:	Data link layer
Option C:	Network layer or Transport layer
Option D:	Application layer
4.	Mission statement and vision is the part of which Strategic Process.
Option A:	Formulation of Strategy
Option B:	Implementation of Strategy
Option C:	Evaluation of Strategy
Option D:	Internal Analysis Strengths weakness
5.	Which of the following is the first step in strategic planning?
Option A:	set objectives and goals
Option B:	develop the business portfolio
Option C:	define the company mission
Option D:	plan marketing strategies
6.	To fulfill the need of customer , the ability to change the product is called as
Option A:	Accessibility
Option B:	Personalization
Option C:	Customization
Option D:	Dependability
7.	Competitive driver of e-business is
Option A:	Reduced sales costs
Option B:	Reduced service costs
Option C:	Avoiding losing market share to business
Option D:	To obtain supplies more rapidly
8.	The most realistic relationship between e-business and e-commerce is
Option A:	E-commerce is subset of e-business
Option B:	E-commerce is nothing but e-business
Option C:	E-business is subset of e-commerce

Option D:	No relationship exists between e-commerce and e-business
9.	Which of following parameter is not associated with e-commerce security environment?
Option A:	Confidentiality
Option B:	Availability
Option C:	Message Integrity
Option D:	Non repudiation
10.	What is at the heart of any ERP system?
Option A:	Information
Option B:	Employees
Option C:	Customers
Option D:	Database
11.	Web ERP is suitable for _____
Option A:	Both small and big organizations
Option B:	Only big organizations
Option C:	Medium scale organizations
Option D:	Only small organizations
12.	_____ maintains reports of warehouse supplies.
Option A:	ERP financial module
Option B:	ERP Inventory software module
Option C:	ERP Resource module
Option D:	ERP verification module
13.	Which type deals with auction?
Option A:	B2B
Option B:	B2C
Option C:	C2B
Option D:	C2C
14.	Amazon belongs to
Option A:	B2B
Option B:	C2B
Option C:	C2C
Option D:	B2C
15.	What is the percentage of customers who visit a Web site and actually buy something called?
Option A:	Affiliate programs
Option B:	Click-through
Option C:	Spam
Option D:	Conversion rate
16.	Data in _____ bytes size is called Big Data.
Option A:	Tera
Option B:	Giga
Option C:	Peta

Option D:	Meta
17.	The Android software is based on Java and runs in a?
Option A:	Dalvik virtual machine
Option B:	Quadrangle virtual machine
Option C:	Qualcomm virtual machine
Option D:	Snapdragon virtual machine
18.	What is NOT a benefit of BYOD?
Option A:	Reduced costs.
Option B:	Viruses and security issues.
Option C:	Familiarity.
Option D:	Ownership.
19.	What does VNC stand for:
Option A:	Various Network computers
Option B:	Virtual Network Computing
Option C:	Virtual Network Communication
Option D:	Various Network Communication
20.	IPSec provides security at:
Option A:	Physical Layer
Option B:	Network Layer
Option C:	Transport Layer
Option D:	Session Layer

Q2 (20 Marks Each)	
A	Solve any Two 5 marks each
i.	Difference between Physical economy and Digital economy
ii.	Explain Digital Signature
iii.	Types of E-Commerce
B	Solve any One 10 marks each
i.	Explain ERP
ii.	Explain Analysis of Company's Internal and External environment

Q3. (20 Marks Each)	
A	Solve any Two 5 marks each
i.	Write short note on Market research and Advertisement
ii.	Write short note on Firewall
iii.	Explain process of Digital Transformation
B	Solve any One 10 marks

	each
i.	Explain IOT
ii.	Explain Business Plan Preparation

University of Mumbai
Examination 2020 under cluster 08 (Lead College: PHCET)
Examinations Commencing from 23rd December 2020 to 6th January 2021

Program: **B.E. All Branches**

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: ILOC 8026 and Course Name: Research Methodology

Time: 2 hours

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	_____ are statements/assumptions made -about the likely outcomes of the problem-which may or may not be true.
Option A:	Hypotheses
Option B:	Analytical models
Option C:	Research questions
Option D:	Marketing research problems
2.	Characteristic of research is _____.
Option A:	Empirical
Option B:	Hypothetical
Option C:	Theoretical
Option D:	Unethical
3.	Attributes of objects, events or things which can be measured are called
Option A:	Qualitative measure
Option B:	Data
Option C:	Variables
Option D:	Invariables
4.	Inductive logic proceeds from
Option A:	General to General
Option B:	Specific to General
Option C:	General to Specific
Option D:	Specific to Specific
5.	This is not the purpose of review of researches done in related fields of study
Option A:	to know what knowledge already exists
Option B:	to know gaps in knowledge that exists
Option C:	to avoid the replication of knowledge that exists
Option D:	to list the studies in their own research work
6.	A company wants to know what are the problems are faced by employees in the night shift duties. The company is intending to undertake
Option A:	Pure research
Option B:	Applied research
Option C:	Basic research

Option D:	Causal research
7.	The process not needed in experimental researches is
Option A:	Reference collection
Option B:	Controlling
Option C:	Observation
Option D:	Manipulation and replication
8.	Fundamental Research is otherwise called
Option A:	Action Research
Option B:	Survey
Option C:	Pilot study
Option D:	Pure Research
9.	Which of the following tasks is not a part of research design?
Option A:	Design the exploratory, descriptive, and/or causal phases of the research.
Option B:	Construct and pretest a study instrument.
Option C:	Formulate the sampling plan
Option D:	Develop hypotheses
10.	Research design is a blue print, outline and
Option A:	Plan
Option B:	System
Option C:	Strategy
Option D:	Guide
11.	Which technique is generally followed when the population is finite?
Option A:	Area sampling technique
Option B:	Purposive sampling technique
Option C:	Systematic sampling technique
Option D:	Random sampling technique
12.	In an experiment, the group that does not receive the intervention is called
Option A:	The experimental group
Option B:	The participant group
Option C:	The control group
Option D:	The treatment group
13.	Questionnaire is a
Option A:	Research method
Option B:	Measurement technique
Option C:	Tool for data collection
Option D:	Data analysis technique
14.	A Type 1 error occurs in a situation where:
Option A:	The null hypothesis is accepted when it is in fact true
Option B:	The null hypothesis is rejected when it is in fact false
Option C:	The null hypothesis is rejected when it is in fact true
Option D:	The null hypothesis is accepted when it is in fact false

15.	Which of the following is not a data-collection method?
Option A:	Research questions
Option B:	Unstructured interviewing
Option C:	Postal survey questionnaires
Option D:	Participant observation
16.	When a hypothesis is stated negatively it is called
Option A:	Relational Hypothesis
Option B:	Situational Hypothesis
Option C:	Null Hypothesis
Option D:	Casual Hypothesis
17.	Which of the following statement is wrong regarding inductive generalizations?
Option A:	They are based on observed facts and realistic foundation
Option B:	is scientific in character and some of the important theorems of the physical and social sciences have been developed through this method
Option C:	It is helpful in finding out the material truth
Option D:	It is easy, cost effective and time saving method
18.	Developing a researchable question would not involve
Option A:	Considering the time and resources available to you
Option B:	Bearing in mind your technical expertise in the area of research
Option C:	Deciding what statistical software to use
Option D:	Assessing the work involved
19.	Research ethics do not include
Option A:	Integrity
Option B:	Honesty
Option C:	Subjectivity
Option D:	Objectivity
20.	Failure to acknowledge the borrowed material is called
Option A:	Acknowledgement
Option B:	Index
Option C:	Bibliography
Option D:	Plagiarism

Q2.	Solve any Four out of Six	5 marks each
A	What are the problems faced by Researcher	
B	Give the Characteristics of Research Explain in detail	
C	Explain Qualitative & Quantitative Research	
D	What is a Research Design? Explain its Necessity	
E	What are the Characteristics of good hypothesis ? Explain type I & type II errors	
F	What are the differences between observation and interviewing as methods of data collection?	

Q3.	Solve any Four out of Six	5 marks each
A	Define Hypothesis with example	
B	Explain Ex post facto Research with example	
C	What do you mean by Sampling ? What are the types of Sampling	
D	Enumerate the different methods of collecting data giving one example each	
E	State the sources of research problem. How a problem is identified? Enumerate the criteria for the selection of a problem	
F	“Ethics in research is the need of the hour” Justify the statement	

University of Mumbai

Examination 2020 under cluster __ (Lead College: APSIT)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: ALL

Curriculum Scheme: Rev2016

Examination: FE/SE/TE/BE Semester VIII

Course Code: ILO8024 and Course Name: HUMAN RESOURCE MANAGEMENT

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks. 2 marks each (40 Marks)
1.	Human resource management excludes
Option A:	Motivation
Option B:	Selling
Option C:	Rewards and compensation
Option D:	Recruitment
2.	Human resource Planning is choosing the
Option A:	Right product
Option B:	Right person
Option C:	Right producers
Option D:	Right human behaviour
3.	Maslow's theory of human needs include...
Option A:	Responsibility
Option B:	Self-actualization
Option C:	Self-management
Option D:	Empowerment
4.	_____ represent basic convictions that "a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence."
Option A:	Values
Option B:	Attitude
Option C:	Motivation
Option D:	Ethics
5.	_____ is a process by which we organize and interpret sensory impressions in order to give meaning to our environment
Option A:	Decision making
Option B:	Negotiation
Option C:	Perception
Option D:	Conflict negotiation
6.	Which one of the below mentioned functions is the part of the organizational level?
Option A:	Organisational Culture
Option B:	Group Structure

Option C:	Team
Option D:	Group Norms
7.	A leader should be able to ____
Option A:	Take selfish decisions
Option B:	Explain organisational goals
Option C:	Sack the employees
Option D:	Fire the employees
8.	Group rules are for ____ of the members.
Option A:	Harassment
Option B:	Behaviour
Option C:	Punishment
Option D:	Sacking
9.	What is the first step in the appraisal process?
Option A:	Giving feedback
Option B:	Defining the job
Option C:	Administering the appraisal tool
Option D:	Making plans to provide training
10.	Power that is based on fear called as
Option A:	Reward Power
Option B:	Information Power
Option C:	Coercive Power
Option D:	Legitimate Power
11.	Human Resource Planning is done based on
Option A:	Market Condition
Option B:	Financial Condition
Option C:	Organisational Plan
Option D:	External Environment
12.	Which is the least expensive method for recruitments?
Option A:	Walk - ins, write - ins and talk - ins
Option B:	Campus placements
Option C:	Employment exchanges
Option D:	Consultants
13.	Development is not related to
Option A:	Technical aspects
Option B:	Conceptual
Option C:	Human skills
Option D:	Termination
14.	Which one from the following options is challenge in diversity at workplace?
Option A:	Increase in Productivity
Option B:	High Performance team building
Option C:	Conflicts
Option D:	Increase in Pay

15.	Which of this is a step in training process
Option A:	Use of evaluation models
Option B:	Obstacles in the system
Option C:	KSA deficiency
Option D:	Provide proper feedback
16.	Which among the following will not be included in Business Process Reengineering?
Option A:	To set the vision & business goals
Option B:	To dissuade employees from using technology
Option C:	Establish a competent team
Option D:	Redesign the process
17.	Which one is generation Z?
Option A:	Born Between 2001-2020
Option B:	Born Between 1965-1981
Option C:	Born Between 1941-1964
Option D:	Born Between 1982-2000
18.	Which conflict occurs within an individual?
Option A:	Interpersonal
Option B:	Intra-personal
Option C:	Intra-Group
Option D:	Inter Group
19.	As per the factories Act " CHILD" means a person who has not completed ---- - years of age
Option A:	15
Option B:	16
Option C:	17
Option D:	18
20.	Shops and Establishment Act applies to all-----
Option A:	Cultivate Shops , Restaurants, Hotels, Theatres, Amusement parks etc.
Option B:	Only Shops
Option C:	Only Hotels
Option D:	Only Theatres

Q. 2 Solve any Two Questions out of Three

10 marks each (20 Marks)

- A) Explain the appraisal process and the methods of appraisal (10)
- B) Explain the recruitment process and the external sources of recruitment in detail. (10)
- C) Explain evolution and functions of HRM (10)

Q. 3 Solve any Two out of Three

10 marks each (20 Marks)

- A) Explain organizational behavior and its determinants. (10)
- B) Define the term 'training and development'. Explain the importance and various inputs required for a training and development program. (10)

C)

i) Write short note on TQM. (5)

ii) Define Ethics and explain characteristics of ethics (5)

University of Mumbai

Examination 2020 under cluster __ (Lead College: _____)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: **ALL**

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: ILO8027 and Course Name: IPR and Patenting

Time: 2-hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	A _____ is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
Option A:	Logo
Option B:	Geographical Indication (GI)
Option C:	Trademark
Option D:	Patents & Copyrights
2.	A company wishes to ensure that no one else can use their logo should file rights for a
Option A:	Patents
Option B:	Copyrights
Option C:	Trade mark
Option D:	Industrial design
3.	A vocalist who wishes to assign the rights to reproduce a video he has made of his concert should go for filing a
Option A:	Patents
Option B:	Copyrights
Option C:	Trade mark
Option D:	Industrial design
4.	A _____ extinguishes all rights of the IP holder.
Option A:	Grant
Option B:	Sale
Option C:	Deal
Option D:	Infringement
5.	The industrial design is protected for _____ years
Option A:	15
Option B:	10
Option C:	5
Option D:	20

6.	Patent right is not _____
Option A:	Limited period right
Option B:	Territorial right
Option C:	Absolute right
Option D:	Natural right
7.	PCT stands for _____
Option A:	Patent Certification Treaty
Option B:	Patent Cooperation Trade
Option C:	Patent Cooperation Treaty
Option D:	Patent Copyright Treaty
8.	E-commerce thing that needs to be considered with respect to IP is _____
Option A:	traditional knowledge
Option B:	Media
Option C:	Logo
Option D:	Photos
9.	TKRC is _____
Option A:	Traditional Knowledge Resource Classification
Option B:	Total Knowledge Resource Classification
Option C:	Traditional Knowledge Resource Contents
Option D:	True Knowledge Resource Contents
10.	What is included in biological resources?
Option A:	Animals
Option B:	human genetic material
Option C:	softwares with Genetic algorithms
Option D:	Designs
11.	What protects the intellectual property created by inventors?
Option A:	Copyright
Option B:	geographical indications
Option C:	Patents
Option D:	registered designs
12.	Is a patent granted in India valid in any other country?
Option A:	Yes
Option B:	only in signatory countries to TRIPS
Option C:	No
Option D:	only to neighboring countries
13.	Which of the following is not patentable according to Indian Patent Act 1970?

Option A:	Pin
Option B:	Chair
Option C:	washing machine
Option D:	a new method of horticulture
14.	Where is the Japan Patent Office located?
Option A:	Tokyo
Option B:	Kyoto
Option C:	Osaka
Option D:	Nara
15.	_____ means a person who in law represents the estate of a deceased person;
Option A:	Person
Option B:	Patentee
Option C:	legal representative
Option D:	person interested
16.	_____ means an application for patent made in accordance with the Patent Cooperation Treaty.
Option A:	patent of addition
Option B:	Patent
Option C:	international application
Option D:	new invention
17.	_____ means trespass on an intellectual property.
Option A:	Enforcement
Option B:	Licensing
Option C:	Infringement
Option D:	Assignment
18.	IPC in patenting means
Option A:	Indian Patent Classification
Option B:	International Panel Code
Option C:	International Patent Classification
Option D:	International Postal Code
19.	In compulsory license, the right of the licensee is _____
Option A:	Exclusive license
Option B:	Non-exclusive
Option C:	Assignable
Option D:	non-assignable
20.	The Indian Patent Act was established in
Option A:	1790

Option B:	1947
Option C:	1970
Option D:	2020

Q2.	Solve any Four out of Six	5 marks each
A	Describe different types of Intellectual Property.	
B	What are the impacts of IP Rights?	
C	Enumerate the procedure to register the copyright.	
D	Explain Paris Convention Treaty.	
E	What are challenges to Intellectual Property in Traditional Knowledge?	
F	Explain in brief about Intellectual Property and Digital Economy.	

Q3.	Solve any Four out of Six	5 marks each
A	Explain the contents of complete specification for patent application.	
B	Discuss the major steps involved to register a patent.	
C	Write a short note on rights and liabilities of patentees.	
D	Write a short note on US Scenario of Patent Rules	
E	List and explain types of claims.	
F	Describe non-patentable inventions with example.	

Program: BE (ALL BRANCHES)

Curriculum Scheme: Rev2020

Examination: BESemesterVIII

Course Code:ILOC8021and Course Name: Project Management

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which of the following is the most important element of Project Management Plan that is useful in Planning process:
Option A:	Risk Management activities
Option B:	Quality Assurance activities
Option C:	Activity Resource requirements
Option D:	Budget Control activities
2.	CPM is an acronym for
Option A:	Control Path Method
Option B:	Critical Path Method
Option C:	Cohesion Path Method
Option D:	Control Path Model
3.	A Project with a total funding of \$100,000 finished with a BAC value of \$95,000. What term can BEST describe the difference of \$5,000?
Option A:	Cost Variance
Option B:	Management Overhead
Option C:	Management Contingency Reserve
Option D:	Schedule Variance
4.	Activity Definition is typically performed by which of the following:
Option A:	Project Manager who created the WBS
Option B:	Project Team Members responsible for the work package
Option C:	Project Officer
Option D:	Project Stakeholder
5.	Expected risks in a project is represented in a tabular form by
Option A:	Risk Table
Option B:	Assessment Table
Option C:	Time Table
Option D:	Round Table
6.	A project has a 60% chance of a \$100,000 profit and a 40 percent of a \$100,000 loss. The Expected Monetary Value for the project is:
Option A:	\$100,000 profit
Option B:	\$60,000 loss
Option C:	\$ 20,000 profit
Option D:	\$40,000 loss

7.	The time taken to break even or pay back the initial investment is called as
Option A:	Back period.
Option B:	Payback period.
Option C:	Cash back period.
Option D:	Rate of Return.
8.	The expenditure and income taken place in a project is indicated by
Option A:	Cash flow forecast.
Option B:	Cost analysis.
Option C:	Fund flow.
Option D:	Technical forecast.
9.	The method which is carried out to calculate the earliest dates on which each activity may be started and completed is
Option A:	Backward pass
Option B:	Forward pass
Option C:	No pass.
Option D:	Increasing pass.
10.	The shortest time in which we could expect to complete the activity, barring outright miracles is called as
Option A:	Optimistic Time
Option B:	Pessimistic Time
Option C:	Most Likely Time
Option D:	Shortest Time
11.	Which of these is not one of the constraints of a project?
Option A:	Scope
Option B:	Team
Option C:	Resources
Option D:	Budget
12.	Which is not one of the stages of Project Management Lifecycle?
Option A:	Definition and Conceptualization
Option B:	Management and Measurement
Option C:	Planning and Budgeting
Option D:	Execution and Control
13.	Activities A, B, and C are the immediate predecessors for Y activity. If the earliest finish times for the three activities are 12, 15, and 10, then the earliest start time for Y will be
Option A:	10
Option B:	15
Option C:	12
Option D:	100
14.	The critical path is referred to as the
Option A:	Most direct path from the beginning node to the ending node

Option B:	Shortest path in terms of time
Option C:	Longest path in terms of time
Option D:	Path with the largest amount of slack time
15.	A schedule activity may begin 10 days before the predecessor activity finishes. This is an example of:
Option A:	Finish-to-Start
Option B:	Start-to-Finish
Option C:	Start-to-Start
Option D:	Finish-to-Finish
16.	Resource requirement in project becomes constant while the project is in its what progress stage
Option A:	40 to 55%
Option B:	55 to 70%
Option C:	70 to 80%
Option D:	80 to 95%
17.	What limits the options of the project team?
Option A:	Constraints
Option B:	Assumptions
Option C:	Technology
Option D:	Deliverables
18.	The difference between the cumulative earned value of the work performed and the cumulative actual cost is known as
Option A:	Cost performance index
Option B:	Cost variance
Option C:	Budgeted costs
Option D:	Cost quality index
19.	Which of the following does NOT generate changes to the Project documents:
Option A:	Define Activities
Option B:	Sequence Activities
Option C:	Estimate Activity Resources
Option D:	Estimate Activity Durations
20.	If the Earned Value is equal to Actual Cost, it means
Option A:	Project is on budget and on schedule
Option B:	Schedule variance index is 1
Option C:	There is no schedule variance
Option D:	There is no cost variance

Q2	Solve any Two Questions out of three.	5 marks each
A	I. Compare AOA and AON	
	II. Compare internal risk and external risk.	
	III. State the limitations of Gantt chart	
B	Solve any One	10 marks each
	I. What is Work breakdown structure. Draw and explain the WBS for hospital management system.	
	II. What is project crashing. Explain with the help of suitable example.	

Q3	Solve any Two Questions out of Three	5 marks each
A	I. List and explain the phases of project life	
	II. Why leveling of resources is preferred to large fluctuations, justify ?	
	III. List the steps involved in terminating a project.	
B	Solve any One	10 marks each
	I. Explain the terms qualitative risk and quantitative risk. List and explain the risk response strategies.	
	II. What are the knowledge areas and process groups in Project Management as per PMI?	

University of Mumbai

Examination 2020 under cluster __ (Lead College: _____)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: **All**

Curriculum Scheme: Rev2016

Examination: BE

Semester VIII

Course Code: ILO8022

Course Name: Finance management

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	_____ are a long-term promissory notes with maturities ranging from 5 to 30 years.
Option A:	Notes
Option B:	Shares
Option C:	Bonds
Option D:	Commercial Papers
2.	Which of the following is not the Financial Services in Indian Financial System?
Option A:	Local Bankers
Option B:	Investment Banking
Option C:	Credit Rating
Option D:	Asset Management
3.	The regulator for Primary and secondary market is
Option A:	IRDA
Option B:	SEBI
Option C:	RBI
Option D:	CRISIL
4.	With a well-diversified portfolio, an investor can reduce
Option A:	Unsystematic risk
Option B:	systematic risk
Option C:	Market Risk
Option D:	finance risk
5.	A statistical measure of the degree to which two variables (e.g., securities' returns) move together.
Option A:	Certainty equivalent
Option B:	Covariance
Option C:	Variance
Option D:	Coefficient of variation
6.	How you can turn a portfolio having two risky securities into risk less if
Option A:	The securities are completely negatively correlated
Option B:	The securities are completely positively correlated
Option C:	If the correlation ranges between zero and one

Option D:	If the correlation ranges between zero and two
7.	When the concept of ratio is defined in respected to the items shown in the financial statements, it is termed as
Option A:	Accounting ratio
Option B:	Financial ratio
Option C:	Costing ratio
Option D:	leverage Ratio
8.	When the concept of ratio is defined in respected to the items shown in the financial statements, it is termed as
Option A:	Accounting ratio
Option B:	Financial ratio
Option C:	Costing ratio
Option D:	leverage Ratio
9.	What is the value of the firm usually based on
Option A:	The value of debt and equity.
Option B:	The value of equity.
Option C:	The value of debt.
Option D:	The value of assets plus liabilities.
10.	The assets that can be converted into cash within a short period (i.e.1 year or less) are known as
Option A:	Current assets
Option B:	Fixed assets
Option C:	Intangible assets
Option D:	Investments
11.	The assets that can be converted into cash within a short period (i.e.1 year or less) are known as
Option A:	Current assets
Option B:	Fixed assets
Option C:	Intangible assets
Option D:	Investments
12.	The use of NPV rule in investment decisions require information about –
Option A:	Profit
Option B:	Risk
Option C:	Time value of money
Option D:	Cash flows
13.	Which among the following is not a current liability?
Option A:	Equity Shares
Option B:	Interest payable
Option C:	Accrued Expenses
Option D:	Accounts Payable
14.	The XYZ purchases a new equipment. The selected data is given below: Cost of equipment: Rs 25,000, Useful life of equipment: 5 years, Tax rate: 30%. If

	equipment is depreciated using straight line method, what is the depreciation tax benefit associated with the new equipment?
Option A:	Rs 35000
Option B:	Rs 1500
Option C:	Rs 7500
Option D:	Rs 5000
15.	Gross Working Capital is the capital invested in
Option A:	Total Assets
Option B:	Total Assets minus Total Liabilities
Option C:	Total Current Assets
Option D:	Current Assets minus Current Liabilities
16.	In _____ approach, the capital structure decision is relevant to the valuation of the firm.
Option A:	Net income
Option B:	Net operating income
Option C:	Traditional
Option D:	Miller and Modigliani
17.	Under the lease agreement, the lessee gets the right to
Option A:	Share profits earned by the lessor
Option B:	Participate in the management of the organization
Option C:	Use the asset for a specified period
Option D:	Sell the assets
18.	What assumptions have to consider to approach the Net operating income to valuation?
Option A:	that debt and equity levels remain unchanged.
Option B:	that interest expense and taxes are included in the calculation
Option C:	that dividends increase at a constant rate.
Option D:	that ko remains constant regardless of changes in leverage.
19.	If a firm has low fixed costs relative to all other firms in the same industry, a large change in sales volume (either up or down) would have:
Option A:	a smaller change in EBIT for the firm versus the other firms.
Option B:	no effect in any way on the firms as volume does not effect fixed costs.
Option C:	a decreasing effect on the cyclical nature of the business.
Option D:	a larger change in EBIT for the firm versus the other firms.
20.	Which of the following are theories for dividend relevance?
Option A:	Walter's Model
Option B:	MM Approach
Option C:	Game theory
Option D:	Market Value theory

Q2	Solve any Four out of Six	5 marks each
A	What functions are performed by the Reserve Bank of India?	
B	A 12 - payment annuity of Rs.20,000 will begin 8 years hence. (The first payment	

	occurs at the end of 8 years). What is the present value of this annuity if the discount rate is 14 percent?
C	What are the Sources of Short Term Financing?
D	Examine critically "Debentures" as a source of Corporate Finance
E	How to calculate discounted payback period for a project? (assume suitable data)
F	Discuss traditional approach of capital structure design

Q3	Solve any Four out of Six	5 marks each
A	State and illustrate different financial instruments	
B	What are the risk associated with business and how are they measured?	
C	What is the importance of Financial Ratio Analysis?	
D	Discuss factor affecting working capital needs of an entity	
E	Discuss Modigliani-Miller (MM) approach for capital structure	
F	Explain the Factors determining Dividend Policy.	

University of Mumbai

Examination 2020 under cluster 8 (Lead College: PHCET)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: All Branch

Curriculum Scheme: Rev 2016

Examination: BE Semester VIII

Course Code: ILO8023 and Course Name: Entrepreneurship Development and Management

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	MUDRA stands for _____ .
Option A:	Metropolitan and Urban Development Regulatory Authority
Option B:	A scheme under Ministry of AYUSH
Option C:	Micro Units Development and Refinance Agency
Option D:	Macro Units Development and Refinance Agency
2.	What is Mahila Vikas Nidhi?
Option A:	It offers developmental assistance for pursuit of income generating activities to women
Option B:	housing scheme for women
Option C:	subsidized gas cylinder
Option D:	Subsidy scheme for women
3.	Enterprise is classified as medium if
Option A:	Annual turnover not more than 15cr
Option B:	Annual turnover not more than 250cr
Option C:	Annual turnover not more than 25cr
Option D:	Annual turnover not more than 50cr
4.	What is CVY?
Option A:	Coir Vikas Yojana
Option B:	Cottage Vikas Yojana
Option C:	Cotton Vikas Yojana
Option D:	Communication Vikas Yojana
5.	What is purpose of National Manufacturing Competitiveness Programme
Option A:	to support the SMEs to get loan
Option B:	to support the SMEs to get market
Option C:	to support the SMEs to get land
Option D:	to support the SMEs in their endeavor to become competitive
6.	IPR stands for _____
Option A:	Intellectual Property Rights
Option B:	Individual Property Rights
Option C:	Indian Property Rights

Option D:	Institutional property rights
7.	One of the disadvantages of a franchise business for a franchisee is,
Option A:	Lack of market availability
Option B:	Lack of independence.
Option C:	Lack of training
Option D:	Lack of brand identity.
8.	In PESTEL analysis, 'P' stands for:
Option A:	political
Option B:	population
Option C:	people
Option D:	profit
9.	Question Marks in BCG matrix represents,
Option A:	High Growth, Low Market Share
Option B:	Low Growth, Low Market Share
Option C:	Low Growth, High Market Share
Option D:	High Growth, High Market Share
10.	A good Business plan _____ .
Option A:	Predict the future.
Option B:	Predict the demand.
Option C:	Can attract the investors.
Option D:	Guarantee profit.
11.	When the companies mutually agreed to become partners in fairly & friendly way to run the business, then it is called as,
Option A:	collaboration
Option B:	franchise
Option C:	acquisition
Option D:	merger
12.	Document that can convince the reader that the business can produce enough revenue to make a satisfactory profit and therefore attractive as an investment opportunity is called as,
Option A:	Future plan
Option B:	Profit-loss statement
Option C:	Balance statement
Option D:	Business plan
13.	Which of the following is NOT the example of PPP project?
Option A:	Mumbai Metro
Option B:	Sister Nivedita Bridge in Kolkata
Option C:	Underground car parking system in Kolkata
Option D:	Ola Travelling system
14.	Which of the following questions are NOT answered by a business plan?
Option A:	Where am I now?
Option B:	Where am I going?
Option C:	How will I get there?

Option D:	Why should I do this business?
15.	Who is appointed as a chairperson of the Mission Directorate (Executive Committee) level of National Skill Development Mission.
Option A:	Secretary, MSDE
Option B:	Minister, MSDE
Option C:	Secretary, Shiksha Mantralaya
Option D:	Minister, Shiksha Mantralaya
16.	Which one of the following is NOT the category of clients in MUDRA Bank?
Option A:	Shishu
Option B:	Kishor
Option C:	Tarun
Option D:	Vruddha
17.	What is the process of one company taking over by the other called?
Option A:	Merger
Option B:	Acquisition
Option C:	Going public
Option D:	Write off
18.	What is Vertical Merger?
Option A:	takes a company a step closer towards monopoly by eliminating a competitor
Option B:	combination of two entities at different stages of the industrial or production process
Option C:	the shareholders of one entity receives cash instead of shares in the merged entity
Option D:	merger between two entities in unrelated industries
19.	_____ refers to the successful selling of a product or service in a specific market.
Option A:	Market penetration
Option B:	Advertisement
Option C:	outreach
Option D:	consolidation
20.	What is NOT an IPO
Option A:	An initial public offering (IPO) refers to the process of offering shares of a private corporation to the public in a new stock issuance.
Option B:	Initial public offering or stock market launch is a type of public offering in which shares of a company are sold to institutional investors and usually also retail investors.
Option C:	An initial public offering (IPO) refers to the process of offering shares of a private corporation to the public in a new stock issuance.
Option D:	IPO is transferring company to charitable trust

Q2	Solve any Four out of Six.	5 marks each
A	Discuss challenges faced by MSMEs.	
B	Explain the various forms of business ownership.	
C	Explain new product development process.	
D	Explain MSME with respect to following points: 1) The industries that come under MSME, 2) Definitions of micro, small and medium enterprises In accordance with the provision of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006, 3) benefits of MSME registration.	
E	Explain PMEGP with respect to the following points: 1) It's objectives, 2) Eligibility criteria for PMEGP, 3) It's features	
F	Explain the small business life cycle in detail.	

Q3.	Solve any Four out of Six.	5 marks each
A	Discuss various funding schemes for women entrepreneurs	
B	Explain marketing schemes for MSMEs	
C	What do you mean by MSME?	
D	Explain the importance of business plan for new business.	
E	What are the various sources of a finance for new business & explain the importance of capital to entrepreneurship.	
F	Explain supply chain management.	

University of Mumbai

Examination 2020 under cluster __ (Lead College: _____)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021
to 20th January 2021

Program: ALL

Curriculum Scheme: Rev2016

Examination: BESemester: VIII

Course Code: ILO8029 and Course Name: Environmental management

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Abiotic environment does not include
Option A:	Soil
Option B:	Water
Option C:	Air
Option D:	Plant
2.	A relatively dense layer of band which is found in the thermosphere is known as?
Option A:	Troposphere
Option B:	Mesosphere
Option C:	Stratosphere
Option D:	Ionosphere
3.	The word environment is derived from French word
Option A:	Environner
Option B:	Environnering
Option C:	E-Environner
Option D:	Envo
4.	Sunder LalBahuguna is famous for
Option A:	Narmada BachaoAndolan
Option B:	TehriBachoAndolan
Option C:	Ganga BachoAndolan
Option D:	Jungle BachoAndolan
5.	Which of the following conceptual components of the environment are effective transporters of matter?
Option A:	Hydrosphere and lithosphere
Option B:	Atmosphere and lithosphere
Option C:	Atmosphere and hydrosphere
Option D:	Lithosphere and biosphere
6.	Acid rain can be prevented by

Option A:	Increasing the emission of SO ₂ and NO ₂
Option B:	Decreasing the emission of SO ₂ and NO ₂
Option C:	Increasing the emission of HCL and Phosphate
Option D:	Decreasing the emission of HCL and Phosphate
7.	To maintain ecological balance and regulate the population size of different animals, this is useful
Option A:	Sun chain
Option B:	Wind chain
Option C:	Food chain
Option D:	Grass chain
8.	The tropical grasslands in Africa with tall grasses scattered with shrubs or stunted trees are called
Option A:	Savanas
Option B:	Pampas
Option C:	Steppes
Option D:	Prairies
9.	Among the ecosystem mentioned below , where one can find maximum biodiversity
Option A:	Mangroves
Option B:	Desert
Option C:	Coral Reefs
Option D:	Alpine meadows
10.	Which of the following helped in the saving of trees?
Option A:	Pouring of water
Option B:	Developing of chemical manuals
Option C:	Use of modern agriculture
Option D:	Development of iron and steel
11.	Which of the following model satisfies four conditions - Consistently satisfactory, Sustainable economic performance, Ethical actions and Behaviour.
Option A:	Spiral Model
Option B:	Corporate Citizenship Model
Option C:	Corporate Civil Model
Option D:	Spiral Model
12.	Supplying socially harmless products, Adopt fair pricing and Provide good service after sales are responsibilities towards -
Option A:	Consumer
Option B:	Seller
Option C:	Dealer
Option D:	Manufacturer
13.	Which is not a decided component amongst the following to maintain public

	health and safety to ensure quality of total environment ?
Option A:	Water
Option B:	Air
Option C:	Junk food
Option D:	Radiation
14.	CER stands for -
Option A:	Corporate Environmental Responsibility
Option B:	Complete Environmental Responsibility
Option C:	Corporate Energy Responsibility
Option D:	Corporate Environmental Response
15.	The term 'Municipal Solid Waste' is used to describe which kind of solid waste?
Option A:	Non toxic
Option B:	Toxic
Option C:	Non hazardous
Option D:	Hazardous
16.	ISO – 14001 gives stress on
Option A:	Plan – Do -check -Act
Option B:	Environmental protection
Option C:	Prevention rather than detection
Option D:	Proceed-Do-correct-Act
17.	What is not covered in the ISO-14000 ?
Option A:	Adoption of environmental safety guideline
Option B:	Energy audit in Industry
Option C:	Adoption of clean environment
Option D:	Adoption of environmental management system in industry or organization
18.	Name the Ministry which deals with environment related issues
Option A:	Ministry of Water Resources
Option B:	Ministry of Forest
Option C:	Ministry of Environment , Forests and Climate change (MoEFCC)
Option D:	Ministry of Agriculture
19.	Under _____ Act, Rules relative to various aspects of management of hazardous chemicals, wastes. have been notified.
Option A:	Water Act (1974)
Option B:	Air Act (1981)
Option C:	Environment Protection Act (1986)
Option D:	Biodiversity Act (2002)

20.	_____ of the Constitution of India directs the State to protect and improve the environment and safeguard wildlife and forests.
Option A:	Article 51A
Option B:	Article 58A
Option C:	Article 1A
Option D:	Article 48A

Q2	Solve any Four out of Six (Total 20Marks)
A	What are different environmental issues relevant to India
B	State the various carrier opportunities in Environmental Management
C	Describe any TWO types of Ecosystems
D	What is relationship between Food chain and Food Web
E	What is an EMS certification all about.
F	Give a brief account of Air (P and CP Act)
Q3.	Solve any Two Questions out of Three (Total 20 Marks)
A	Explain what is meant by hazardous waste and how it can be dealt with.
B	Explain the role of environment management and total quality management to achieve total quality environmental management
C	Explain some of the common sources of water pollutants and their effects on humans, plants and animals.

University of Mumbai

Examination 2020 under cluster __ (Lead College: _____)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: Institute Level Elective

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: ILO8025 and Course Name: PE and CSR

Time: 2 hour

Max. Marks: 80

1. Please save this file with file name as per the sample format given below:

File Name: "Date of Examination_Scheme_Program_Semester_Subject Code_QP Set Number"

For example:

QP set number 1 of Engineering Mathematics-I of First Year Semester I for Rev2019 scheme and scheduled on 7/01/2021 has to have the file name as

0701_R19_FE_I_FEC101_QP1

QP set number 1 of first core course of Mechanical Engineering Semester V for Rev2016 scheme and scheduled on 23/12/2020 has to have the file name as

2312_R16_Mech_V_MEC501_QP1

QP set number 3 of Department Level Optional Course of Computer Engineering Semester VI for Rev2012 scheme and scheduled on 3/01/2021 has to have the file name as

0301_R12_Comp_VI_CSDLO6021_QP3

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	The inclusive term used to refer to any net benefits produced by an action.
Option A:	ethic of virtue
Option B:	ethic of care
Option C:	Utilitarianism
Option D:	Utility
2.	The market for automobiles is an example of?
Option A:	Monopolistic competition.
Option B:	Duopoly.
Option C:	Differentiated oligopoly.
Option D:	Pure oligopoly.
3.	Rights that all human beings everywhere possess to an equal extent simply by virtue of being human beings is,
Option A:	Right
Option B:	Legal right
Option C:	Moral rights or human rights
Option D:	Characteristic of Rights
4.	The gradual breakdown of ozone gas in the stratosphere above us caused by the release of chlorofluorocarbons (CFCs) into the air.

Option A:	ozone depletion
Option B:	Global warming
Option C:	Pollution
Option D:	Greenhouse gases
5.	Which following statement is explain about Negative Rights?
Option A:	Duties of others have to not interfere in certain activities of the person who holds the right.
Option B:	Duties of other agents (it is not always clear who) to provide the holder of the right with whatever he or she needs to freely pursue his or her interests.
Option C:	Provide a basis for justifying one's actions and for invoking the protection or aid of others
Option D:	Are correlated with duties others have toward the person with the right
6.	The undesirable and unintended contamination of the environment by human activity such as manufacturing, waste disposal, burning fossil fuels, etc. is called as ?
Option A:	Pollution
Option B:	Resource depletion
Option C:	Greenhouse gases
Option D:	Global warming
7.	Discrimination that is not consciously or deliberately sought, but is brought about by stereotypes or as an unintended outcome is called as..
Option A:	Intentional
Option B:	Institutional
Option C:	Individual
Option D:	Unintentional
8.	Perfectly competitive markets encourage firms to use resources efficiently to keep costs?
Option A:	Low
Option B:	Moderate
Option C:	Zero
Option D:	High
9.	Which of the following is not a category of Sustainability?
Option A:	Environmental Sustainability
Option B:	Natural Sustainability
Option C:	Social Sustainability
Option D:	Economic Sustainability
10.	Which of the following is a characteristic of monopolistic competition?
Option A:	Few sellers.
Option B:	All of the above are characteristics of monopolistic competition.
Option C:	A differentiated product.
Option D:	Easy entry into and exit from the industry.
11.	Business people have the skills to solve?
Option A:	All Economic Problems
Option B:	All Social Problem
Option C:	Some Social Problem

Option D:	All Technical Problem
12.	Which of the following is Problem associated with Contractual Theory?
Option A:	Sellers cannot remove all their duties to buyers by getting them to agree to disclaimers of responsibility.
Option B:	Safety should not be provided through the market.
Option C:	Assumes consumer and seller meet as equals, but seller has more knowledge even then consumer must not rely on the seller.
Option D:	Assumes makers of products deal directly with consumers but they do not; however manufacturer's advertisements do form a kind of direct promise to consumers.
13.	The Globalization do not facilitate to
Option A:	Removal of control on movement of capital across borders
Option B:	Barriers to trade and investment
Option C:	Improvements in communication
Option D:	Immigration control
14.	What should be Market Approach to Consumer Protection?
Option A:	Claims safety is a commodity that should be mandated by government.
Option B:	In a market, sellers will provide safety if consumers demand it.
Option C:	In a market, the price of safety and the amount sellers provide will not be determined by the costs of providing it and the value consumers place on it
Option D:	Safety should not be provided through the market.
15.	Which of the following is not a Indicator of Discrimination?
Option A:	Proportion of rich and poor at all economic levels.
Option B:	Proportions of minorities and women at lowest economic levels
Option C:	Average benefits minorities and women receive compared to others
Option D:	Proportions of minorities and women at highest economic levels.
16.	Privacy with respect to a person's physical activities is called as?
Option A:	individual privacy
Option B:	personal privacy
Option C:	physical privacy
Option D:	psychological privacy
17.	What is Triple Bottom Line (TBL) ?
Option A:	An accounting tool that looks at the impact on people, planet and profits
Option B:	A management strategy which states all the attention should be on profits
Option C:	An accounting tool that looks at cost, profit and loss.
Option D:	A management strategy which focuses on corporate social responsibility
18.	Which of the following general principle is not followed by corporation while practicing CSR:
Option A:	Companies should support the inclusion of the principles of the India Global Compact
Option B:	Companies should indulge in free marker practices, rejecting any illegal or fraudulent practice and implement effective mechanisms
Option C:	Mangers are not responsible to follow and encourage ethical business practices among employees

Option D:	Companies should encourage and facilitate communication and dialogue with its shareholders, investors, employees, Customers and suppliers
19.	Distributing the benefits and burdens fairly among people is called as,
Option A:	Rule-utilitarianism
Option B:	Rights
Option C:	Justice
Option D:	Utilitarianism
20.	The moral argument for CSR is..
Option A:	The corporation is a creation of society and should therefore serve its needs.
Option B:	The corporation is a legal creation and therefore cannot be a moral agent
Option C:	Only Large corporations have the power or resources to address society's problems
Option D:	Business decisions will have social and environmental consequences which will be addressed by government.

Q2	Solve any Two Questions out of Three	10 marks each
A	How Ethics is an integral part of Business, Explain with Example	
B	What are the Ethics of pollution control.	
C	How can the rights of a consumer be defined in a due care theory? Explain with suitable example	

Q3	Solve any Two Questions out of Three	10 marks each
A	Explain in detail Corporate Social Responsibility and Small and Medium Enterprises (SMEs) in India.	
B	Why incorporate CSR into PPP for sustainable development?	
C	What is TBL? How it is work?	

University of Mumbai
Examination 2020 under cluster 7 (Lead College: SSJCOE)
Examinations Commencing from 23rd December 2020 to 6th January 2021
Program: Information Technology
Curriculum Scheme: Rev-2016

Examination: BE

Semester VIII

Course Code: ITC801 and Course Name: Big Data Analytics

Time: 2-hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
	Introduction-3Hrs-(6%)-1Q, Hadoop, NoSQL-10Hrs-(20%)-4Q, MapReduce-9Hrs-(18%)-4Q, DSMS-7Hrs-(14%)-3Q, PCY, SON, CURE, Classification-10Hrs-(20%)-4Q, Page Rank, Social Networking, Recommendation-11Hrs-(22%)-4Q
1.	Match the following: 1. Structured A. XML 2. Semi-Structured B. Video 3. Unstructured C. RDBMS Tables
Option A:	1-C, 2-B, 3-A
Option B:	1-C, 2-A, 3-B
Option C:	1-A, 2-B, 3-C
Option D:	1-B, 2-A, 3-C
2.	Which component of Hadoop ecosystem provides high level scripting language?
Option A:	Oozie
Option B:	Zookeeper
Option C:	Mahout
Option D:	Pig
3.	Command used to check the status of all daemons running in HDFS is
Option A:	jps
Option B:	fsck
Option C:	distcp
Option D:	chmod
4.	Select the option that is not valid in NoSQL database?
Option A:	SQL databases make use of a fixed schema, whereas NoSQL datastores do not make use of a fixed schema
Option B:	NoSQL refers to “Not Only SQL”
Option C:	MapReduce scans the entire dataset for any query, whereas NoSQL has the ability to fetch a single record without scanning the entire dataset
Option D:	The query language used for querying NoSQL datastores adds a layer of abstraction on top of MapReduce. They convert the query into a series of MapReduce jobs.
5.	Which of the following is not a valid NoSQL database?
Option A:	HBase
Option B:	MongoDB

Option C:	Cassandra
Option D:	Postgre SQL
6.	In a MapReduce program, aggregation of values associated to each key is performed by which function?
Option A:	Driver
Option B:	Mapper
Option C:	Reducer
Option D:	Partitioner
7.	Which of the following is an optional component of a Hadoop MapReduce program?
Option A:	A Java class with a main that configures and submits the job
Option B:	A class that extends the Hadoop Reducer class (The “Combiner”)
Option C:	A class that extends the Hadoop Mapper class (The “Mapper”)
Option D:	A class that extends the Hadoop Reducer class (The “Reducer”)
8.	The MapReduce framework of Hadoop generates how many map tasks for each Input Split generated by the Input Format for the job?
Option A:	One
Option B:	Two
Option C:	Three
Option D:	Four
9.	A client wants to read two blocks a and b from the four available DataNodes namely, DataNode 1, DataNode 2, DataNode 3 and DataNode 4. The distribution of blocks among the DataNodes is given below. The distances between the DataNodes and the client are 2, 8, 6 and 4 respectively. “DataNode 1” goes down because of some technical issues and its replication is yet to happen. Select the DataNodes from which the client will read the blocks a and b respectively. DataNode 1: block d, block b, block a DataNode 2: block a, block c, block b DataNode 3: block b, block d, block c DataNode 4: block c, block a, block d
Option A:	DataNode 4, DataNode 3
Option B:	DataNode 3, DataNode 2
Option C:	DataNode 2, DataNode 4
Option D:	DataNode 2, DataNode 3
10.	Which of the following is a characteristic of stream processing?
Option A:	The system processes the data items instantly as they arrive.
Option B:	The data items come in at a regulated rate.
Option C:	The stream data is typically used to build complex models.
Option D:	Systems process all the data items entering into operation together.
11.	In DSMS, Standing Queries are stored at
Option A:	Limited working storage
Option B:	Archival storage
Option C:	Distributed file system
Option D:	Stream processor

12.	In DGIM the size of bucket must be
Option A:	Fixed
Option B:	Incremental by 1
Option C:	Mod 2
Option D:	Power of 2
13.	Which technique is used to filter unnecessary itemset in PCY algorithm
Option A:	Association Rule
Option B:	Hashing Technique
Option C:	Data Mining
Option D:	Market Basket
14.	How do you calculate Confidence (A -> B)?
Option A:	$\text{Support}(A \cap B) / \text{Support}(A)$
Option B:	$\text{Support}(A \cap B) / \text{Support}(B)$
Option C:	$\text{Support}(A \cup B) / \text{Support}(A)$
Option D:	$\text{Support}(A \cup B) / \text{Support}(B)$
15.	Impact of a Dead end on Page Rank algorithm is
Option A:	Rank of none of the pages is affected
Option B:	Rank of all pages becomes 0
Option C:	Few pages get very high page rank and the rest get 0
Option D:	Few pages get 0 and rest are unaffected
16.	An algorithm that divides the entire file of baskets into segments small enough so that all frequent itemset for the segment can be found in main memory is:
Option A:	PCY Algorithm
Option B:	Randomized Algorithm
Option C:	DGIM Algorithm
Option D:	SON Algorithm
17.	Which of the following factors have an impact on the Google PageRank?
Option A:	The total number of inbound links to a page of a web site
Option B:	The subject matter of the website
Option C:	The count of number of times a word repeats on a website
Option D:	The number of outbound links from the page
18.	The concept which explains the advantage of on-line vendors over conventional, brick-and mortar vendors is called
Option A:	Long Tail
Option B:	Tailing
Option C:	Short Tail
Option D:	Zero Tail
19.	Which one of the following is used to normalize the utility matrix?
Option A:	Subtract average rating of a user from each rating of that user.
Option B:	Add average rating of a user to each rating of that user.
Option C:	For each user, consider their average rating only
Option D:	For each user, consider the median of his/her ratings

20.	Friends relationship of Facebook can be best modeled on Social Web using
Option A:	Directed Acyclic Graph
Option B:	Linked List
Option C:	Directed Graph
Option D:	Undirected Graph

Q2. (20 Marks Each)	Solve any Four out of Six	5 marks each
A	Compare traditional approach with big data approach.	
B	Explain Read Operation in HDFS.	
C	State and explain CAP Theorem.	
D	Explain the concept of Bloom Filter with an example.	
E	What is DGIM? State the rules used in DGIM Algorithm.	
F	Write a short note on Collaborative Filtering.	

Q3. (20 Marks Each)	Solve any two out of three	10 marks each
A	What is Hadoop? Describe HDFS architecture in detail.	
B	Explain PageRank Algorithm with a suitable example	
C	Explain CURE Algorithm with Initialization and Completion Phase.	

University of Mumbai

Examination 2020 under cluster 7

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: Information Technology

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: ITC802 and Course Name: **Internet of Everything**

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	M2M is a term introduced by
Option A:	IOT service provider
Option B:	Fog Computing service provider
Option C:	Telecommunication service provider
Option D:	Internet service provider
2.	Bluetooth 5.0 promises:
Option A:	4x Speed, 2x Range, 2x Data
Option B:	6x Speed, 3x Range, 3x Data
Option C:	2x Speed, 4x Range, 8x Data
Option D:	3x Speed, 4x Range, 8x Data
3.	RFID uses
Option A:	Electromagnetic Signal
Option B:	Microwave Signal
Option C:	Radio Frequency Signal
Option D:	Gamma-Ray signal
4.	Which of the following statements concerning bar codes is true?
Option A:	The EAN bar code is a subset of the UPC bar coding system
Option B:	The UPC barcode is a subset of the EAN bar coding system
Option C:	The EAN barcodes and UPC barcodes are mutually exclusive
Option D:	The EAN barcodes and UPC barcodes have some overlaps
5.	Anti-Collision Protocol are a critical part of _____ system
Option A:	ALOHA
Option B:	RFID
Option C:	Binary Tree
Option D:	MBQTP
6.	A shopper goes into a supermarket and purchases two identical boxes of cereals which have barcodes on them. These two barcodes on the two boxes would be
Option A:	There would be minor differences
Option B:	There may or may not be differences
Option C:	The last line in the bar code would be different.

Option D:	Exactly identical
7.	Select the incorrect statement:
Option A:	QT protocol, tags involve complex hardware requirements
Option B:	Last Input First Output stack (LIFO) is used in QT protocol
Option C:	Slotted Aloha has maximal throughput $1/e$
Option D:	Tree-based protocols are deterministic
8.	In Slotted Aloha
Option A:	Tag Cost is least
Option B:	Tag Cost is medium
Option C:	Tag Cost is most
Option D:	Tag is not required
9.	In slotted ALOHA, a maximum of _____ transponders can be put into circulation
Option A:	64
Option B:	128
Option C:	256
Option D:	1024
10.	_____ applications come under Industrial IoT.
Option A:	Health and fitness monitoring
Option B:	Machine diagnosis and prognosis
Option C:	Smart irrigation
Option D:	Smart vending machine
11.	MQTT topics are
Option A:	Simple floating point
Option B:	Simple integer
Option C:	Simple symbol
Option D:	Simple string
12.	_____ HTTP method lists all the resources in a collection.
Option A:	POST
Option B:	GET
Option C:	DELETE
Option D:	PUT
13.	Functions of Brokers in MQTT
Option A:	Classify sensor data into topics
Option B:	Classify topics into sensor data
Option C:	Classify sensors
Option D:	Classify different topics

14.	Triangulation, scene analysis and proximity techniques are based on:
Option A:	RRS
Option B:	RRP
Option C:	RRR
Option D:	RAR
15.	_____ localization algorithm works according to the last known or estimated location by using velocity or acceleration.
Option A:	Scene Analysis
Option B:	Dead Reckoning
Option C:	Proximity
Option D:	Hybrid Algorithm
16.	Mobility supported at the link layer is also called as _____
Option A:	Mobility link layer
Option B:	Mobile link layer
Option C:	Mobility layer
Option D:	Mobile layer
17.	The similarity in signal space in Scene Analysis or fingerprinting method can be based either on:
Option A:	Differential schemes
Option B:	Derivative based schemes
Option C:	Deterministic or probabilistic schemes
Option D:	Deterministic and probabilistic schemes
18.	Hadoop works on _____
Option A:	Relational Database Management System
Option B:	Distributed file system
Option C:	Network file system
Option D:	Java Message Service System
19.	Hadoop is written in
Option A:	Perl
Option B:	Java
Option C:	Python
Option D:	Octave
20.	Select the true statement
Option A:	Map Task in MapReduce is performed using the Mapper() function

Option B:	The size of data block is generally 64KB
Option C:	Reduce Task in MapReduce is performed using the Map() function
Option D:	MapReduce tries to place the data and the job

Please use either of the 3 option given below while setting up the subjective/descriptive questions

Option 3 (Subjective/Descriptive Questions)

Q2.	<i>Please delete the instruction shown in front of every sub question</i>	
A	Solve any Two	5 marks each
i.	Explain CoAP with example.	
ii.	Draw labelled RFID architecture and list applications.	
iii.	List and give different steps in the Predictive analytics process?	
B	Solve any One	10 marks each
i.	Explain any one IOT application along with the required sensors and the IOT platform. Also suggest the type of communication protocol with the justification.	
ii.	List the conventional-Measurement algorithms that can be used for localization of the mobile object. Discuss any 3 techniques in detail.	

Q3.	<i>Please delete the instruction shown in front of every sub question</i>	
A	Solve any Two	5 marks each
i.	List the different RFID applications and limitations of RFID.	
ii.	Give different steps involved in slotted aloha protocol?	
iii.	Explain how the spout and bolt work in Apache Storm.	
B	Solve any One	10 marks each
i.	What do you mean by Resource in the REST framework?What are the tools used for creating RESTFull web services?	
ii.	Discuss the RFID enabled handoff management process in Localization and Mobility management.	

University of Mumbai
Examination 2020 under cluster 7 (Lead College: SSJCOE)

Program: **Information Technology**
Curriculum Scheme: Rev 2016

Examination: BE

Semester: VIII

Course Code: ITDLO8045

Course Name: Enterprise Resource Planning

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which is not the drawback of Non-Integrated system.
Option A:	Data duplication
Option B:	Data inconsistency
Option C:	lack of integration
Option D:	better decisions improving performance
2.	An enterprise can make better business decisions with the help of ----- .
Option A:	Data Mining
Option B:	Business Intelligence
Option C:	OLAP
Option D:	Product Life Cycle management
3.	----- helps to meet needs of customer, product and service.
Option A:	Customer Relationship Management
Option B:	Supply Chain Management
Option C:	Enterprise Resource Planning
Option D:	Product Life Cycle Management
4.	Multidisciplinary fields such as technical, business, legal, financial are included in ---- .
Option A:	e-Commerce
Option B:	e-Business
Option C:	e-Bill
Option D:	e-mail
5.	---- identifies all components used in the production, quantity required and order in which the components are assembled.
Option A:	Manufacturing Resource Planning
Option B:	Distribution Requirement Planning
Option C:	Material Requirement Planning
Option D:	Bill of Material
6.	Identify the subsystem of Plant Maintenance module of an ERP system
Option A:	Inventory Management
Option B:	Preventive Maintenance Control
Option C:	Cost Management

Option D:	Project management
7.	ERP Inventory software module maintains reports of ----- .
Option A:	Sales
Option B:	No of customers
Option C:	warehouse supplies
Option D:	No of suppliers
8.	This serves as a central pool of financial data for reporting and other accounting areas.
Option A:	Market management module
Option B:	Investment management
Option C:	General Ledger
Option D:	Asset Accounting
9.	This is not an quantifiable benefit of an ERP system.
Option A:	Reduced Manpower
Option B:	Better product design
Option C:	Reduced Material Cost
Option D:	Improved Sales
10.	----- are very helpful in the implementation process of ERP implementation.
Option A:	consultants
Option B:	employees
Option C:	vendors
Option D:	end-users
11.	Executive committee is headed by ---- . _____.
Option A:	End users
Option B:	vendors
Option C:	CIO/CEO
Option D:	consultant
12.	--- is superficial study of the package, considering the weaknesses and strengths of each package.
Option A:	Gap-Analysis
Option B:	Reengineering
Option C:	Configuration
Option D:	Pre-evaluation Screening
13.	Breaking the system will be done in _____
Option A:	Going Live
Option B:	Configuration
Option C:	Testing
Option D:	Reengineering
14.	Installation of all modules will happen at once in _____ strategy.
Option A:	Top-down

Option B:	Bottom-up
Option C:	Big-Bang
Option D:	Sequential
15.	Failure or success of the projects depends on ____ a broader way.
Option A:	Package Evaluation
Option B:	Gap Analysis
Option C:	Pre-evaluation Screening
Option D:	Resources
16.	Online banking, online shopping, online ticket booking are examples of ---- .
Option A:	e-Business
Option B:	e-Bill
Option C:	e-Commerce
Option D:	e-Way
17.	Payment of electricity bill & taxes are the examples of --- e-commerce models.
Option A:	B2B
Option B:	B2C
Option C:	C2C
Option D:	C2G
18.	---- is required to align business strategies, processes, and applications quickly, correctly, and all at once.
Option A:	Involved Management
Option B:	String Leadership
Option C:	Dedicated Team
Option D:	Good application
19.	This strategy is the path to consumer loyalty.
Option A:	Customer relationship management
Option B:	supply chain management
Option C:	relationship selling
Option D:	Customer care
20.	This is not an ERP implementation methodology phase.
Option A:	Project preparation phase
Option B:	Pilot Phase
Option C:	Assessment Phase
Option D:	Planning phase

Q2 (20 Marks)	Solve any Four out of Six	5 marks each
A	Categorize the risks of Enterprise Resource Planning.	
B	Explain the factors responsible for the growth of E-Commerce.	
C	Write a short note on the Plant Maintenance module of ERP.	
D	Discuss the tangible/indirect benefits to an organization due to ERP implementation.	
E	Explain the following stages of ERP Implementation in brief. i) Pre-evaluation screening ii) Package Evaluation	
F	Describe the chain of e-Procurement.	

Q3. (20 Marks)	Solve any Two Questions out of Three	10 marks each
A	Summarize Data Warehouse with respect to its primary goals, major components and advantages to an enterprise.	
B	Explain the following terms i) Just-in-Time ii) Bill of Material	
C	With example , explain the types of e-Commerce models.	

University of Mumbai
Examination 2020 under cluster 7(Lead College: SSJCOE)
Examinations Commencing from 23rd December 2020 to 6th January 2021
Program: Information Technology
Curriculum Scheme: Rev-2016

Examination: BE Semester VIII

Course Code: ITDL08042 and Course Name: IRS (Information Retrieval System)

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which are the three classic models in information retrieval system?
Option A:	Boolean model, Vector Space model, Deterministic model
Option B:	Deterministic model, Vector Space model, Probabilistic model
Option C:	Boolean model, Deterministic model, Probabilistic model
Option D:	Boolean model, Vector Space model, Probabilistic model
2.	The first stage of the indexing process is typically known as _____
Option A:	tokenization
Option B:	localization
Option C:	globalization
Option D:	gathering information
3.	Any text can be characterized by using four attributes:
Option A:	syntax, structure, semantics, and style
Option B:	symbol, union, semantics and style
Option C:	symbol, structure, constants and style
Option D:	syntax, union, symbol and style
4.	_____ -based queries are popular, because they are intuitive and easy to express.
Option A:	Keyword
Option B:	Semantics
Option C:	Structure
Option D:	Style
5.	A _____ is a set of syntactic features that must occur in a text segment.
Option A:	Structure
Option B:	Pattern
Option C:	Symbol
Option D:	Style
6.	It is sequence of single-word queries.
Option A:	phrase
Option B:	query

Option C:	text
Option D:	proximity
7.	boolean query operators are
Option A:	&
Option B:	+
Option C:	-
Option D:	AND, OR, NOT
8.	Spelling correction only depends on _____ factor.
Option A:	Query
Option B:	term
Option C:	indexpowerd
Option D:	Postings
9.	One important consequence of using _____ is the possibility of performing direct searching on compressed text
Option A:	byte Huffman coding
Option B:	Huffman coding
Option C:	Adaptive dictionary methods
Option D:	Arithmetic coding
10.	SMDL stands for _____
Option A:	Standard Music Description Language
Option B:	Switched Multimegabit Data language
Option C:	scale massive data link
Option D:	standard multitaskng data language
11.	Compression models can be adaptive, static, or _____
Option A:	semi-static
Option B:	static
Option C:	semi-dynamic
Option D:	Dynamic
12.	A Thesaurus stands for.....
Option A:	Objective of removing affixes and allowing the retrieval of document containing syntactical variations of query term
Option B:	Objective of filtering out words with very low descrimination value for retrieval purpose
Option C:	Objective of treating digits, hyphens, punctuation marks, and the case of letters
Option D:	Method of allowing the expansion of original query with related term
13.	The purpose of meta search is -----
Option A:	to return a list of sites based on the list of search terms you enter.
Option B:	to allow all users to change its content.
Option C:	to return a list of sites that have been reviewed by humans.
Option D:	<i>to searche a variety of other search engines.</i>
14.	_____ is an aspect of a hyperlink which is not important for search engine optimization
Option A:	The visibility of the link text.

Option B:	The anchor text, especially the keywords in it.
Option C:	The place from which the link originates.
Option D:	The place to which the link leads.
15.	In Multimedia Information retrieval , large gap between contents of a multimedia signal and its meaning is called as
Option A:	Suffix array
Option B:	Inverted files
Option C:	Semantic gap
Option D:	Suffix trees
16.	In audio retrieval, small snippet of sound it called ?
Option A:	Fingerprinting
Option B:	Speech recognition
Option C:	Speaker identification
Option D:	Spoken document retrieval
17.	Time interval between the arrival of the query and the generation of the answer is called _____
Option A:	Query Latency
Option B:	Indexing time
Option C:	Query throughput
Option D:	Indexing space
18.	Which visualization technique does connection between two or more views of the same data ?
Option A:	Brushing and linking
Option B:	Panning and zooming
Option C:	Color highlighting
Option D:	Magic lens
19.	Which of the following is not a principle of Human -Computer Interaction?
Option A:	Offer informative feedback.
Option B:	Reduce working memory load.
Option C:	Provide alternative interfaces for novice and expert users.
Option D:	offers different type of sorting before search
20.	Which visualization technique supports the analysis of large hierarchical structure data. ?
Option A:	Panning and zooming
Option B:	Tree views
Option C:	Focus + context
Option D:	Brushing and linking

Q2	Solve any Four out of Six	5 marks each
A	<i>List out different components of information system and explain its types.</i>	
B	Explain Classic Information Retrieval models.	
C	Compare between Automatic local analysis and Automatic global analysis	

D	Write short note on pattern matching.
E	Discuss about Meta searches.
F	Explain interface support for the search process

Q3	Solve any Two Questions out of Three 10 marks each
A	<i>Describe Boolean queries and vector queries and explain in detail.</i>
B	Explain different types of Markup Language and compare
C	<i>Write a short note Text compression</i>

University of Mumbai
Examination 2020 under cluster 7 (Lead College: SSJCOE)
Examinations Commencing from 23rd December 2020 to 6th January 2021
Program: Information Technology
Curriculum Scheme: Rev-2016

Examination: BE

Semester VIII

Course Code: ITDLO8041_ and Course Name: UID

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Out of the following options, which one is strictly considered not the principle of effective User-centered design?
Option A:	Organize technology around the user's goals, tasks and abilities.
Option B:	Organize technology around the way users process information and make decisions.
Option C:	Create the design without taking the input from the user.
Option D:	Keep the user in control and aware of the state of the system.
2.	A good way to study User expectations is using....
Option A:	Cognitive walkthrough
Option B:	Affinity Diagram
Option C:	Market Research
Option D:	Contextual Inquiry
3.	A Prototype is important as it provides a
Option A:	Mini-Model of existing System
Option B:	Manifestation of a design that allows stakeholders to interact with it and to explore its suitability
Option C:	Working Model of existing System
Option D:	can be applied only to the newly created product
4.	In UID, Waterfall model is basically a _____ model in which each step must be completed before the next step can be started
Option A:	Incremental
Option B:	Linear
Option C:	Iterative
Option D:	Analytical
5.	In UID, User Evaluation is done based on
Option A:	Documents
Option B:	Research Results
Option C:	Feedback

Option D:	Mathematical model
6.	The Design Council of the UK proposed the double-diamond of design which has four phases. Their sequential steps are
Option A:	Define -> Discover -> Develop -> Deliver
Option B:	Discover -> Define -> Develop -> Deliver
Option C:	Discover -> Develop -> Define -> Deliver
Option D:	Define -> Develop -> Discover -> Deliver
7.	Which of the prototyping methods will cost you more?
Option A:	low-fidelity prototype
Option B:	Mixed-fidelity prototype
Option C:	high-fidelity prototype
Option D:	Evolutionary prototyping
8.	Out of the following which method _____ involves watching and listening to users
Option A:	Interaction
Option B:	Observation
Option C:	Qualitative research
Option D:	Evaluation
9.	Flat list, Contextual, drop down, Pop-up are styles of ____
Option A:	Menus
Option B:	Icons
Option C:	Windows
Option D:	Mobile Interface
10.	Over use of sound effects and music can make user ____
Option A:	Frustrated
Option B:	Annoyed
Option C:	Sad
Option D:	Happy
11.	We study user interaction design to determine how we can make technology-led applications more usable for _____
Option A:	Future Technology
Option B:	End-Users
Option C:	Software Developers
Option D:	Company/IT Industry
12.	Which Interaction Type enable users to fly over them and zoom in and out of different parts?
Option A:	Responding
Option B:	Exploring

Option C:	Manipulating
Option D:	Conversing
13.	According to the studies, which one of these would not be found in a good User interaction design?
Option A:	Icons that can have specific meanings
Option B:	A long command line to achieve a function
Option C:	Sounds that convey meanings
Option D:	Common shortcuts, like CTRL+Z for undo
14.	In User Experience/Usability, which is not included?
Option A:	knowledge about Analytics
Option B:	Quality
Option C:	User interaction design
Option D:	Detailed Software Design
15.	Interaction designer helps in bonding with...
Option A:	client and end user
Option B:	coder and manager
Option C:	Developer and client
Option D:	Coder and tester
16.	Out of these, which one is not an interface style?
Option A:	Command line/command prompt
Option B:	Menus
Option C:	Natural Language
Option D:	Voice Recognition
17.	Gaps between user and machines are filled with _____.
Option A:	Software Engineering
Option B:	User communication
Option C:	User Interaction Design
Option D:	Computer Interfaces
18.	Operations like Selecting, dragging, opening, closing, zooming in and out using touch gestures on a smartphone are all examples of which type of interaction
Option A:	Instructing
Option B:	Manipulation
Option C:	Conversing
Option D:	Exploring
19.	According to UID Theory, What is pilot study?
Option A:	study done before the main study

Option B:	done after main study
Option C:	done with main study
Option D:	done after feedback
20.	Find the incorrect statement...
Option A:	Utility refers to the functionality of a system
Option B:	Usability is concerned with adding complexity to the system
Option C:	Usability is concerned with making systems easy to use
Option D:	Poorly designed computer system can be extremely annoying to users

Option 2

Q2	Solve any Two Questions out of Three	10 marks each
A	<i>What do you mean by Cognitive walkthrough, give example?</i>	
B	<i>Comment on Interface metaphors.</i> <i>a. 3D Video Games</i> <i>b. Windows Environment</i> <i>c. Web Browser</i>	
C	<i>Explain any two empirical usability evaluation methods in detail?</i>	
Q3	Solve any Two Questions out of Three	10 marks each
A	<i>Explain conceptual models based on activities with example.</i>	
B	<i>Explain the four main techniques for data gathering useful for user centered design?</i>	
C	<i>Explain Usability Design Principles.</i>	

University of Mumbai
Examination 2020 under cluster 7(Lead College: SSJCOE)
Examinations Commencing from 23rd December 2020 to 6th January 2021
Program: Information Technology
Curriculum Scheme: Rev-2016

Examination: BE Semester VIII

Course Code: ITDLO8044 and Course Name: IT

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	In General Voronoi diagram, robot traverses the unknown path, uses the path that is equidistant to:
Option A:	Farthest obstacle
Option B:	Closest obstacle
Option C:	Optimal path
Option D:	Safest path
2.	In transformation matrix, approach vector is denoted as:
Option A:	X
Option B:	Y
Option C:	Z
Option D:	Major axis
3.	Using Silhouette method robot can complete its task by using:
Option A:	Optimal path
Option B:	Longest path
Option C:	Multiple path
Option D:	Path without obstacles.
4.	Industrial robot is called as:
Option A:	Cylindrical robot
Option B:	Spherical robot
Option C:	Gantry robot
Option D:	Articulated robot
5.	Inverse kinematics never gives unique solution because:
Option A:	Different methods are not used to solve this.
Option B:	Number of variable and number of equations matches.
Option C:	For inverse of cosine angle , we always get two values
Option D:	We need to solve multiple equations.
6.	Degrees of freedom is defined as:
Option A:	Number of directions in which robot can move.
Option B:	Number of minor axis of robot.
Option C:	Number of major axis of robot.
Option D:	Number of directions in which end effector can rotates.

7.	Homogeneous transformation matrix is used so that:
Option A:	We can find rotational change of robot
Option B:	We can get translation change of robot
Option C:	We can get both
Option D:	We cannot get both.
8.	In Jacobian we consider:
Option A:	Angular velocity
Option B:	Velocity
Option C:	Translation
Option D:	Angular translation
9.	Hard automation is always :
Option A:	Simpler
Option B:	Complex
Option C:	Cheaper
Option D:	Maintenance free.
10.	The jacobian results in a set of linear equations that relate the joint rates to the six vector formed from:
Option A:	Angular velocity
Option B:	Linear velocity
Option C:	Angular and linear
Option D:	Potential field
11.	Each trapezoidal cell lies between two successive :
Option A:	Hexagonal point
Option B:	Triangular node
Option C:	Hexagonal vertex
Option D:	Polygon vertex
12.	Which SLAM combines images from robots or multiple users to generate 3D maps:
Option A:	Collaborative maps
Option B:	Audio visual SLAM
Option C:	Acoustic SLAM
Option D:	Perspective SLAM
13.	Which of the following sensors determines the relation between robot and it environment:
Option A:	Internal
Option B:	External
Option C:	Positional
Option D:	Proximity
14.	The smallest increment of motion detected by robot end effector is called as:
Option A:	Accuracy

Option B:	Efficiency
Option C:	Resolution
Option D:	Precision
15.	In robotics rotary joints are called as :
Option A:	Revolutary
Option B:	Prismatic
Option C:	Cylindrical
Option D:	Spherical
16.	The performance of a complete planner is assessed by its computational:
Option A:	Completeness
Option B:	Simplicity
Option C:	Complexity
Option D:	Probability
17.	The main objective of industrial robot is :
Option A:	To increase the productivity
Option B:	To reduce the cost
Option C:	To increase the time
Option D:	To increase complexity.
18.	The amount of weight carried by the robot manipulator at reduced speed:
Option A:	Output
Option B:	Payload
Option C:	Gross output
Option D:	Précised output
19.	Path planning is effectively is effectively an extension of localization that it requires the determination of the robot's current position and a position of a goal location , both :
Option A:	Within different frames.
Option B:	With different knot points
Option C:	Within the same frame of reference/coordinates.
Option D:	With same knot points
20.	Which of the following is safest and fastest algorithm to find obstacle free path:
Option A:	Trapezoidal
Option B:	Exact cell
Option C:	Potential field
Option D:	Cell decomposition

Q2. (20 Marks)	Solve any Two Questions out of Three 10 marks each
A	Explain any one method of robot localization.
B	Derive and explain DK of 3 axis robot.
C	Explain any one wave front planning algorithm.

Q3. (20 Marks)	Solve any Two Questions out of Three 10 marks each
A	Explain Jacobian matrix.
B	Compare between Bug1 and Tangent algorithm.
C	Explain IK analysis of 2- axis robot.

University of Mumbai
Examination 2020 under cluster 7 (Lead College: SSJCOE)
Examinations Commencing from 23rd December 2020 to 6th January 2021
Program: Information Technology
Curriculum Scheme: Rev-2016

Examination: BE

Semester VIII

Course Code: ITDLO8043 and Course Name: Knowledge Management

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	What is the first step in knowledge management?
Option A:	Gather
Option B:	Classify
Option C:	Analyze
Option D:	Share
2.	Expertise can be categorized as distinct categories EXCEPT
Option A:	Associational
Option B:	Motor Skills
Option C:	Typewriting
Option D:	Theoretical
3.	KM for organization does not
Option A:	Helps drive strategy
Option B:	Oppose business strategy
Option C:	Solves problem quickly
Option D:	Diffuses best practices
4.	What the user sees and works with in terms of accessing and working with the knowledge?
Option A:	User Interface
Option B:	Application layer
Option C:	Collaborative layer
Option D:	Authentication layer
5.	Which of the following knowledge is about topics such as restaurant, coins, and hurricanes, was used to understand the concepts explained in the chapter?
Option A:	Declarative Knowledge
Option B:	Procedural Knowledge
Option C:	General knowledge
Option D:	Specific knowledge
6.	Which of the following is a global memory structure, a database or a repository that stores all partial problem solutions?
Option A:	Delphi Method

Option B:	Knowledge source
Option C:	Blackboard
Option D:	Procedure
7.	Which of the following are the organizations related to law, accountancy, consultancy, design, research and development, education and training under one title?
Option A:	Information industries
Option B:	Knowledge industries
Option C:	Art industries
Option D:	Ethics industries
8.	Artificial intelligence and _____ technologies play an important role in the processes of knowledge discovery, capture, sharing, and application,
Option A:	Machine Learning
Option B:	Organizational Learning
Option C:	Data Abstraction
Option D:	Data Gathering
9.	Ways of knowledge in organizational artefacts does not include
Option A:	Best Practices
Option B:	Technologies
Option C:	Knowledge Repositories
Option D:	Transactions
10.	Which one is not the driving forces of Knowledge Management?
Option A:	Increasing domain complexity
Option B:	Accelerating Market Volatility
Option C:	Intensified speed of responsiveness
Option D:	Domain Analysis
11.	Business intelligence concentrates on data access, _____, and presentation
Option A:	Analysis
Option B:	Diagnosis
Option C:	Corrective Action
Option D:	Preventive Action
12.	KM processes are Capture, Sharing, Application and _____
Option A:	Invention
Option B:	Discovery
Option C:	Recovery
Option D:	Control
13.	____are explicit boundaries that show exactly where an important ethical line lies
Option A:	landmark
Option B:	Fences
Option C:	transparency
Option D:	prevention
14.	During an organization's early experiences with knowledge management _____

	should be preferred
Option A:	Qualitative measures
Option B:	Quantitative measures
Option C:	Ethical Measures
Option D:	transparency
15.	Assessment of value of knowledge is one way of attributing a _____ measure of benefits resulting from knowledge, which is often _____
Option A:	Tangible, Intangible
Option B:	Intangible, Tangible
Option C:	Tangible, Tangible
Option D:	Intangible, Intangible
16.	KM can improve organizational processes along which dimension.
Option A:	Value added products
Option B:	Inherently knowledge-based products
Option C:	Employee adaptability
Option D:	degree of innovation
17.	An expert writing a book is _____ his/her knowledge in that area
Option A:	Internalizing
Option B:	Externalizing
Option C:	Socializing
Option D:	Economy of scale
18.	An organization may choose not to patent an invention but instead keep it as a _____
Option A:	Patents
Option B:	Copyright
Option C:	nondisclosure agreement
Option D:	Trade secret
19.	A good gap analysis should address the
Option A:	Community of Practice
Option B:	Complex Knowledge
Option C:	Competitive Intelligence
Option D:	Conduct a risk analysis
20.	Preparing a report on lessons learned from a project is example of ?
Option A:	externalization
Option B:	internalization
Option C:	socialization
Option D:	Innovation

Q2	Solve any 2 10 marks each
A	Explain the importance of knowledge in creation and utilization of information
B	What is intellectual capital? What are the three types of intellectual capital? and how do they relate to different knowledge locations?
C	Briefly enumerate the ways in which knowledge can impact an organization
Q3.	Solve any 2 10 marks each
A	What are some of the limitations of knowledge application systems?
B	Describe the four steps in the CBR process
C	Describe the two techniques for knowledge elicitation via the use of stories