

## University of Mumbai

### Examination 2020 under cluster \_\_ (Lead College: \_\_\_\_\_)

Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> 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**

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
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

<b>Q2</b> <b>(20 Marks Each)</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Difference between Physical economy and Digital economy
ii.	Explain Digital Signature
iii.	Types of E-Commerce
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	Explain ERP
ii.	Explain Analysis of Company's Internal and External environment

<b>Q3.</b> <b>(20 Marks Each)</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Write short note on Market research and Advertisement
ii.	Write short note on Firewall
iii.	Explain process of Digital Transformation
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks</b></span>

	<b>each</b>
i.	Explain IOT
ii.	Explain Business Plan Preparation

**University of Mumbai**  
**Examination 2020 under cluster 08 (Lead College: PHCET)**  
**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> 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

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
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 <b>not</b> 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

<b>Q2.</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
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?	



<b>Q3.</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
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 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> 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

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks. 2 marks each (40 Marks)</b>
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 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> 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

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Q1.	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
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

<b>Q2.</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
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.	

<b>Q3.</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
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

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<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	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

<b>Q2</b>	<b>Solve any Two Questions out of three.</b>	<b>5 marks each</b>
A	I. Compare AOA and AON	
	II. Compare internal risk and external risk.	
	III. State the limitations of Gantt chart	
<b>B</b>	<b>Solve any One</b>	<b>10 marks each</b>
	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.	

<b>Q3</b>	<b>Solve any Two Questions out of Three</b>	<b>5 marks each</b>
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>B</b>	<b>Solve any One</b>	<b>10 marks each</b>
	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 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> 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.	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
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

<b>Q2</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
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

<b>Q3</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
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 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> 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

<b>Q2</b>	<b>Solve any Four out of Six.</b>	<b>5 marks each</b>
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.	

<b>Q3.</b>	<b>Solve any Four out of Six.</b>	<b>5 marks each</b>
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 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021  
to 20<sup>th</sup> January 2021

Program: ALL

Curriculum Scheme: Rev2016

Examination: BESemester: VIII

Course Code: ILO8029 and Course Name: Environmental management

Time: 2 hour

Max. Marks: 80

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	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 <sub>2</sub> and NO <sub>2</sub>
Option B:	Decreasing the emission of SO <sub>2</sub> and NO <sub>2</sub>
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

<b>Q2</b>	<b>Solve any Four out of Six (Total 20Marks)</b>
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)
<b>Q3.</b>	<b>Solve any Two Questions out of Three ( Total 20 Marks)</b>
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 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> 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.

<b>Q2</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
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	

<b>Q3</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
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 8 (Lead College: PHCET)**

**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021**

Program: **AUTOMOBILE**

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: AEC801 and Course Name: Vehicle Maintenance

Time: 2 hour

Max. Marks: 80

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2312\_R16\_Auto\_VIII\_AEC801\_QP2

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<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Cams are raised sections of a shaft that have high spots called
Option A:	Rings
Option B:	Knobs
Option C:	lobes
Option D:	Valves
2.	A basic short block consists all the following except-
Option A:	Cylinder block
Option B:	Connecting rods, pistons, and rings
Option C:	Cylinder heads
Option D:	Crankshaft
3.	In I/M 240 test vehicle fails at mode 1 means
Option A:	acceleration from 0 to 35 miles per hour
Option B:	idle, no load at 0 miles per hour
Option C:	a steady cruise at 35 miles per hour
Option D:	a steady high cruise at 55 miles per hour
4.	Simulation of the various road conditions in which a vehicle is driven is done by
Option A:	Chassis dynamometers
Option B:	inertia simulation dynamometer.
Option C:	acceleration simulator
Option D:	velocity simulator
5.	Speed of car to test belt should be-
Option A:	10-15 mph
Option B:	15-20mph
Option C:	5-8mph
Option D:	20-24mph

6.	Which of the following is the need of the gearbox?
Option A:	To vary the torque of the vehicle
Option B:	To vary the speed of the vehicle
Option C:	To vary the power of the vehicle
Option D:	To vary the acceleration of the vehicle
7.	A car is fitted with 6 * 14 wheels and 185/65 R 14 tires on them. What is the rolling radius of the original tire?
Option A:	278.05 mm
Option B:	398.05 mm
Option C:	298.05 mm
Option D:	288.05 mm
8.	What does the 'ply rating' refer to?
Option A:	Rated strength
Option B:	The actual number of plies
Option C:	Aspect ratio
Option D:	Recommended inflation pressure
9.	Which type of wheels is preferred in sports cars?
Option A:	Magnesium alloy wheel
Option B:	Aluminum alloy wheel
Option C:	Wire wheel
Option D:	Disc wheel
10.	Generally which brakes are on the front wheels?
Option A:	Disk brake
Option B:	Double shoe brake
Option C:	Shoe brake
Option D:	Drum brake
11.	In a disc brake, which component provides the pad-to-disc adjustment?
Option A:	Piston
Option B:	Bleed screw
Option C:	Caliper
Option D:	Piston seal
12.	What do the permissible of mixing cross-ply and radial-ply automobile tires allow?
Option A:	Cross-ply tires on front wheels
Option B:	Cross-ply tires on left wheels
Option C:	Cross-ply tires on rear wheels
Option D:	Cross-ply tires on right wheels
13.	Where is the clutch located?
Option A:	Between transmission and differential
Option B:	Between transmission and engine
Option C:	Between transmission and propeller shaft
Option D:	Between transmission and rear axle

14.	Which instrument is used for adjusting the ignition timing?
Option A:	Stroboscopic light
Option B:	Stopwatch
Option C:	Tachometer
Option D:	Accurate clock
15.	Detonation or pinging results from
Option A:	high idle speed from cold starts
Option B:	over advanced ignition timing
Option C:	high octane fuel
Option D:	lowering the compression ratio
16.	In the speed control system, the vacuum servo connects to the
Option A:	transmission linkage
Option B:	throttle linkage
Option C:	speedometer cable
Option D:	brake cable
17.	Prevention of ice clogging small holes on windshield in cold weather is done by
Option A:	Intermittent windshield wiper
Option B:	headlight windshield wiper and washer
Option C:	heated windshield washer nozzles
Option D:	windshield wiper
18.	Why are the detergents used as oil additives?
Option A:	To prevent sludge formation
Option B:	To increase fire point
Option C:	To prevent foaming
Option D:	To reduce viscosity
19.	What is the purpose of the venturi in the carburetor?
Option A:	To increase the manifold vacuum
Option B:	To decrease the fuel flow
Option C:	To increase the air velocity
Option D:	To decrease the air velocity
20.	Refrigerant oil marked PAG oil is used --
Option A:	Both refrigerant system
Option B:	only R-134a system
Option C:	only R-12 system
Option D:	in any air conditioning system



<b>Q2</b>	
<b>A</b>	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	What is OBD-II and explain in detail.
ii.	What are the issues with automobile clutch which driver can come across and how they are resolved?
iii.	What do you mean by suspension system? What are the features of good suspension system?
<b>B</b>	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	Write short not on Exhaust gas re circulation and write a note on EGR trouble diagnosis.
ii.	What are requirements of starting system and explain its trouble shooting in detail.
<b>Q3.</b>	
<b>A</b>	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Explain transaxle diagnosis.
ii.	What is headrest explain its need in automobile.
iii.	Describe how to make a performance test of an air conditioner and the meaning of the results.
<b>B</b>	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	What is double declutching? Also Explain clutch diagnosis and service.
ii.	Explain the operation of following system: <ul style="list-style-type: none"> <li>a. Horns system</li> <li>b. Clock system</li> <li>c. Rear window defogger system</li> <li>d. Sound system</li> </ul>

**University of Mumbai**

**Examination 2020 under cluster \_\_ (Lead College-----)**

**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021**

**Program: Automobile Engineering**

**Curriculum Scheme: Rev2016**

Examination: BE

Semester: VIII

Course Code: AEL 802

Course Name: Vehicle Dynamics

Time: 2 hour

Max. Marks: 80

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<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	As the Wind shield angle of inclination becomes steeper, the drag will _____
Option A:	increase
Option B:	decrease
Option C:	constant
Option D:	unpredictable
2.	With increase in temperature of the tire, the rolling resistance coefficient of the tire will _____
Option A:	increases
Option B:	decreases
Option C:	no change
Option D:	no dependency
3.	The protuberance drag is due to the _____
Option A:	front shield
Option B:	roof
Option C:	wheel and wheel well
Option D:	bonnet
4.	Percentage reduction in the overall drag coefficient obtained by rounding low hood is _____
Option A:	85 to 95%
Option B:	5 to 15%
Option C:	65 to 85%
Option D:	45 to 65%
5.	The advantage of Bias ply tire over the Radial ply tire is _____
Option A:	Longer life
Option B:	Lower rolling resistance
Option C:	Smoother ride at low speeds
Option D:	less life
6.	Which of the following tire gives a least distortion in tire thread?
Option A:	Radial ply tyres
Option B:	Cross ply tyres
Option C:	Cross ply belted tyres

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**Examination 2020 under cluster \_\_ (Lead College-----)**

**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021**

**Program: Automobile Engineering**

**Curriculum Scheme: Rev2016**

Examination: BE

Semester: VIII

Course Code: AEL 802

Course Name: Vehicle Dynamics

Time: 2 hour

Max. Marks: 80

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Option D:	Bias ply tyres
7.	The mechanism responsible for friction coupling between tires are
Option A:	Friction and Grasping
Option B:	Friction and Rolling
Option C:	Adhesion and Hysteresis
Option D:	Friction and Adhesion
8.	In passive suspensions
Option A:	spring and damper are absent
Option B:	spring and damper are present
Option C:	spring is absent
Option D:	damper is absent
9.	The function of active suspension is to provide _____
Option A:	roll control and ride control
Option B:	roll control only
Option C:	ride control only
Option D:	drive control only
10.	The range of the ride frequency
Option A:	0-50Hz
Option B:	0-25 Hz
Option C:	0-100 Hz
Option D:	0-1000 Hz
11.	Incorrect steering axis inclination (S.A.I.) causes
Option A:	Tendency to assume toe-out orientation
Option B:	Generation of a braking effect at tight corners
Option C:	Poor recovery of the steering wheel after making a turn
Option D:	The vehicle to pull to the side of lesser inclination
12.	If the tip of the front wheel are closer as compared to the tail it when vehicle is at rest, this condition is called as ____
Option A:	Toe-in
Option B:	Toe out
Option C:	Positive camber
Option D:	Positive castor

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**Examination 2020 under cluster \_\_ (Lead College-----)**

**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021**

**Program: Automobile Engineering**

**Curriculum Scheme: Rev2016**

Examination: BE

Semester: VIII

Course Code: AEL 802

Course Name: Vehicle Dynamics

Time: 2 hour

Max. Marks: 80

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13.	Name the angle through which the wheel has to turn to sustain the side force?
Option A:	Slip angle
Option B:	Castor angle
Option C:	Camber
Option D:	Kingpin inclination
14.	The 'Ackerman mechanism' is related to _____
Option A:	Air conditioning system
Option B:	Transmission system
Option C:	Steering system
Option D:	Lubrication system
15.	In passive isolators the spring or spring damper has a typical natural frequency of _____
Option A:	5-10 Hz
Option B:	3-7 Hz
Option C:	7-15 Hz
Option D:	3-9 Hz
16.	In passive isolators the molded or bounded elastomer mounts has a typical natural frequency of _____
Option A:	0.17-2.5 Hz
Option B:	0.15-2.5 Hz
Option C:	0.10-2.0 Hz
Option D:	1.0-1.5 Hz
17.	The CTIS was first used in _____
Option A:	TATA trucks
Option B:	American DUKW trucks
Option C:	Ford trucks
Option D:	Jeep trucks
18.	CTIS offers improved vehicle _____
Option A:	Speed
Option B:	Life
Option C:	Mobility
Option D:	Strength

**University of Mumbai**

**Examination 2020 under cluster \_\_ (Lead College-----)**

**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021**

**Program: Automobile Engineering**

**Curriculum Scheme: Rev2016**

Examination: BE

Semester: VIII

Course Code: AEL 802

Course Name: Vehicle Dynamics

Time: 2 hour

Max. Marks: 80

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19.	The point where the boundary layer separates is called as ?
Option A:	detachable point
Option B:	point of inflection
Option C:	separation point
Option D:	null point
20.	The formulae $0.5 \times \text{density} \times (\text{Velocity}^2)$ is for ?
Option A:	static pressure
Option B:	dynamic pressure
Option C:	internal pressure
Option D:	external pressure

<b>Q2</b>	<b>Solve any Four out of Six:</b>	<b>5 marks each</b>
A	<i>Define Drag and no-Drag</i>	
B	<i>Give a detailed explanation on rolling resistance</i>	
C	<i>Explain roll steer in detail</i>	
D	<i>Name the sensors? Explain any one type of sensor detail</i>	
E	<i>Name the source of vehicle vibration. Explain any one source in detail</i>	
F	<i>Explain the mechanism of force generation at the tire contact patch</i>	

<b>Q3</b>	<b>Solve any Two Questions out of Three:</b>	<b>10 marks each</b>
A	<i>Explain in detail about forebody drag</i>	
B	<i>Explain the Aerodynamic aids in detail</i>	
C	<i>Give a detailed explanation of the independent suspensions</i>	

**University of Mumbai**

**Examination 2020 under cluster 8 (Lead College: PHCET, Rasayani)**

**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021**

Program: **B.E. Automobile**

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: AEC803 and Course Name: Vehicle Safety

Time: 2 hour

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	..... features are those that help to prevent vehicle collision.
Option A:	Active safety
Option B:	Passive safety
Option C:	Crash test
Option D:	Dummies Testing
2.	Car engine computer program is limiting the vehicle speed or power is an example of?
Option A:	Redundancy
Option B:	Fault Tolerance
Option C:	Derating
Option D:	Alternative Design
3.	Underinflated tyres is an example of .....
Option A:	Anthropometrically induced errors
Option B:	Over steering errors
Option C:	Judgmental errors
Option D:	Braking errors
4.	Which of the following is NOT a distracter for the driver?
Option A:	Speedometer
Option B:	Mobile
Option C:	navigation displays
Option D:	on-board television
5.	Whiplash is a ..... injury due to forceful, rapid back-and-forth movement of the neck, like the cracking of a whip.
Option A:	hand
Option B:	toe
Option C:	leg
Option D:	neck
6.	In crash events, occupants are subjected to .....
Option A:	Kelvin's Laws

Option B:	Newton's Laws.
Option C:	Pascal's Law
Option D:	Darwin's Law
7.	What is the function of Frontal Protection System (FPS)?
Option A:	Occupant Protection
Option B:	Child occupant Protection
Option C:	Rear Passenger Protection
Option D:	Pedestrian Protection
8.	Which of the following is crash testing software?
Option A:	LS DYNA
Option B:	Autocad 2D
Option C:	Coral draw
Option D:	MS Office
9.	Which of the following head restraint systems is more effective in rear crash?
Option A:	Rigid
Option B:	Fixed
Option C:	Regular
Option D:	self-aligning
10.	Which of the following is a highly effective test method for evaluating the ability of a seat to retain occupants in a rear impact crash?
Option A:	Quad Static Seat Test
Option B:	Quasi Static Seat Test
Option C:	Quasi Start Seat Test
Option D:	Quantum Static Seat Test
11.	There are two category of seat belt pretensioner, a ..... pretensioner and ..... pretensioner.
Option A:	mechanical , chemical
Option B:	hydraulic, pneumatic
Option C:	mechanical, hydraulics
Option D:	mechanical , electronic
12.	In the tire coordinate system the longitudinal force is
Option A:	Drag force
Option B:	Traction force
Option C:	Lift force
Option D:	Zero
13.	The combination of ..... and ..... in the plane of contact patch of the tire is called as Vector Resultant F.
Option A:	Lateral force, Longitudinal force
Option B:	Lateral force, Drag force
Option C:	Lift force, Drag force
Option D:	Lift force, Side force

14.	When the driver makes a sudden turn at a relatively high speed , one or more curved tire marks are typically deposited on the road ways which are called as
Option A:	Yaw marks
Option B:	side marks
Option C:	Scuff marks
Option D:	Print marks
15.	The moment of the impulses which are created at leading side tyres will cause the vehicle to
Option A:	Stop
Option B:	Roll over
Option C:	Slow down
Option D:	Speedup
16.	Frictional drag coefficient is mainly associated with .....
Option A:	average speed of the vehicle
Option B:	minimum speed of the vehicle
Option C:	absolute speed of the vehicle
Option D:	critical speed of the vehicle
17.	Which of the following system can modulate braking force at the individual wheels?
Option A:	TPMS
Option B:	Collision warning system
Option C:	ESP
Option D:	Head up displays
18.	Traction control system is a _____ loop control system.
Option A:	closed
Option B:	open
Option C:	semi closed
Option D:	semi open
19.	In which year the Union road transport ministry of India has approved the installation of compulsory airbags and speed limit reminders in all cars?
Option A:	2017
Option B:	2018
Option C:	2019
Option D:	2020
20.	In which year BS IV norms were implemented?
Option A:	2017
Option B:	2015
Option C:	2018
Option D:	2019



<b>Q2.</b> <b>(20 Marks Each)</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	<i>Explain the design requirements for frontal collision.</i>	
B	<i>Explain accidental reconstruction analysis.</i>	
C	<i>Explain any two automotive safety systems.</i>	

<b>Q3.</b> <b>(20 Marks Each)</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	<i>Explain any five types of illustrative errors.</i>	
B	<i>Compare QST with Hydge Sled Test.</i>	
C	<i>Explain key issues of vehicle safety in India. Support your answer with a case study.</i>	

## University of Mumbai

### Examination 2020 under cluster 9(Lead College: PHCET,Rasayni)

Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021

Program: **Automobile**

Curriculum Scheme: 2016

Examination: BE Semester /VIII

Course Code: **AEDLO8041** and Course Name: **Hybrid Electric and Fuel Cell Vehicles**

Time: 2 hour

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	_____ Fuel cell utilizes scrubber in its design to avoid contamination.
Option A:	Proton exchange fuel cells
Option B:	Alkaline fuel cells
Option C:	Molten carbonate fuel cells
Option D:	Phosphoric acid fuel cells
2.	The motor speed is _____ than wheel speed.
Option A:	Less
Option B:	Equal to
Option C:	Greater
Option D:	Very very low
3.	Which of the following is not the main source of electricity for hybrid vehicles?
Option A:	Batteries
Option B:	Fuel Cells
Option C:	Capacitors
Option D:	Energy from Grid
4.	The battery provides_____
Option A:	Low energy and low power
Option B:	High power and Low energy
Option C:	High energy but low power
Option D:	Modest power and energy
5.	Battery and Electric motor is prime mover in which of the following vehicles.
Option A:	I.C.Engines
Option B:	Battery Electric Vehicle
Option C:	Hybrid Electric vehicle
Option D:	Fuel cell electric vehicles
6.	_____ Vehicle has lower tailpipe emission.
Option A:	Pure Combustion Vehicle
Option B:	Battery Electric Vehicle
Option C:	Hybrid Electric vehicle
Option D:	Fuel cell electric vehicles
7.	In Ideal case, the Charging Time for 300 Ah battery would be _____?

Option A:	5 hours
Option B:	10 hours
Option C:	15 hours
Option D:	18 hours
8.	An electric vehicle has the following attributes: drag coefficient $C_D = 0.25$ , vehicle cross section $A = 2 \text{ m}^2$ , and the density of air $\rho = 1.2 \text{ kg m}^{-3}$ . Instantaneously at a vehicle speed of 120 km/h, calculate the aerodynamic drag force?
Option A:	343 N
Option B:	323 N
Option C:	333 N
Option D:	318 N
9.	The wheel torque is _____ than motor torque.
Option A:	Higher
Option B:	Equal to
Option C:	Lower
Option D:	Has no relation
10.	Consider a light delivery van with the propulsion: Diesel engine: 110 kW at 3000 rpm, Electric motor: 23 kW; maximum torque 243 N-m at 500 rpm. Calculate Hybridization factor?
Option A:	83%
Option B:	34%
Option C:	17%
Option D:	66
11.	The rolling resistance coefficient is function of all following parameters except_____
Option A:	Tire material
Option B:	Tire temperature
Option C:	Tire pressure
Option D:	Vehicle weight
12.	The most commonly used powerplant in Hybrid and electric vehicle is_____
Option A:	IC Engine
Option B:	Electric motor
Option C:	Super capacitor
Option D:	Fuel cell
13.	As compared to Electric motors, I C engine
Option A:	Can produce torque at zero speed
Option B:	Cannot produce torque at zero speed
Option C:	Is more efficient
Option D:	Emit lower pollutant
14.	Which of the following is not Hybrid Electric Vehicle?
Option A:	Battery and Fuel cell
Option B:	Battery and Capacitor

Option C:	Battery and Flywheel
Option D:	Fuel cell and Flywheel
15.	In series hybrid the energy is converted _____
Option A:	Only once
Option B:	Twice
Option C:	thrice
Option D:	Four times
16.	The power flow of electric motor is _____ in complex hybrid.
Option A:	Unique
Option B:	Distributed
Option C:	Bi-directional
Option D:	Uni-directional
17.	In EM dominated mode, During full throttle _____ provides the traction power.
Option A:	Only ICE
Option B:	Only EM
Option C:	Only Generator
Option D:	Both ICE and EM
18.	In Front electric rear hybrid mode, During startup _____ remains in shut off mode.
Option A:	ICE
Option B:	Front Electric Motors
Option C:	Rear Electric Motor
Option D:	Both ICE and rear Electric motor
19.	Which of the following is not a part of Energy source subsystem in EV architecture?
Option A:	Energy Source
Option B:	Energy Management Unit
Option C:	Electric Motor
Option D:	Energy refuelling unit
20.	The torque coupling is ___ degree of freedom mechanical device.
Option A:	One
Option B:	Two
Option C:	Three
Option D:	four

<b>Q2</b> <b>(20 Marks Each)</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Explain any 3 drawbacks of Electric vehicles in detail.
ii.	Explain Plug in hybrid vehicle with neat labeled diagram.
iii.	Explain with neat diagram and reactions working of NiMH battery.
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	Explain with neat labeled figure different components used in Hybrid Electric vehicles.
ii.	Explain Micro ,Mild and Full hybrid vehicle with advantages and disadvantages.

<b>Q3.</b> <b>(20 Marks Each)</b>	
A	<b>Solve any Two</b> <span style="float: right;"><b>5 marks each</b></span>
i.	Explain working of Ultra capacitors as energy storage device in Hybrid vehicles with neat sketch.
ii.	Explain working of Flywheel as energy storage device in Hybrid vehicles with neat sketch.
iii.	Explain working of Brushless DC Motor with neat sketch.
B	<b>Solve any One</b> <span style="float: right;"><b>10 marks each</b></span>
i.	Explain Series and Parallel Hybrid drive train configuration with neat labeled sketch.
ii.	Explain ICE dominated and EM dominated Power flow operating modes of Series-Parallel Hybrids.

**University of Mumbai**  
**Examination 2020 under cluster 9 (FAMT)**

Program: **AUTOMOBILE Engineering**

Curriculum Scheme: Rev 2016

Examination: BE Semester VIII

Course Code: AEDLO8042 and Course Name: Rapid Prototyping

Time: 2 hour

Max. Marks: 80

3112\_R16\_Mech\_VIII\_MEDLO8042\_QP1

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Which material can be efficiently used as a support material?
Option A:	ABS
Option B:	PLA
Option C:	Nylon
Option D:	PVA
2.	Material shrinkage error can occur because of;
Option A:	poor resin properties
Option B:	bed weather conditions
Option C:	poor calibration of the machine
Option D:	error in cad file
3.	Metal spraying process is restricted to models with _____ surfaces.
Option A:	Large and gently curved
Option B:	Small and gently curved
Option C:	Large and with projection
Option D:	Small and with projection
4.	Which statement is correct for Soft Tooling?
Option A:	It is used for mass production
Option B:	It is used for single cast or small batch production
Option C:	It is used for simple cast
Option D:	It is used for both small as well as mass production
5.	Which of the following material is water soluble?
Option A:	Polylactic acid (PLA)
Option B:	Acrylonitrile butadiene styrene (ABS)
Option C:	Polycarbonate (PC)
Option D:	Polyvinyl alcohol (PVA)
6.	Packing density of part obtained from SLS process is in the range_____.
Option A:	25 to 50 percent
Option B:	50 to 62 percent
Option C:	75 to 90 percent
Option D:	98 to 100 percent

**University of Mumbai**  
**Examination 2020 under cluster 9 (FAMT)**

7.	The FDM process build parts directly by extruding _____ melt onto the model
Option A:	porous
Option B:	solid
Option C:	semi-liquid
Option D:	powder
8.	In SLA, the powder not melted or fused during processing serves as a
Option A:	waste
Option B:	built-in support
Option C:	extra powder
Option D:	throw away powder
9.	In Solid Ground Curing process mask is generated by_____.
Option A:	UV lamp
Option B:	Ionographic process
Option C:	Melted wax
Option D:	Resin
10.	Solid Ground Curing process is not used in making of _____.
Option A:	Investment casting
Option B:	Mold and tooling
Option C:	Medical imaging
Option D:	Cutting tools
11.	Disadvantage associated with Solid Ground Curing process is_____.
Option A:	Wax gets stuck in corners and crevices
Option B:	Self-supporting
Option C:	Minimum shrinkage effect
Option D:	High structural strength and stability
12.	The laser beam power in laminated object manufacturing is designed to cut exactly the thickness of _____ of material at a time.
Option A:	one layer
Option B:	two layers
Option C:	four layers
Option D:	eight layers
13.	Advantage of SLS process
Option A:	Large physical size of the unit
Option B:	High power consumption
Option C:	Poor surface finish
Option D:	No part supports required
14.	PolyJet process from Objet involves _____.
Option A:	An array of printing heads to simultaneously selectively deposit powder
Option B:	An array of printing heads to simultaneously selectively deposit photopolymer

**University of Mumbai**  
**Examination 2020 under cluster 9 (FAMT)**

Option C:	Laser for printing
Option D:	Laser for masking
15.	In PolyJet process from Objet curing is done using _____.
Option A:	Laser
Option B:	Polymerization
Option C:	UV lamp
Option D:	Hardener
16.	Virtual Reality (VR) is the illusion of;
Option A:	3D Animation with effects
Option B:	3D interactive Computer-generated reality
Option C:	3D images
Option D:	2D Animation with effects
17.	What is the disadvantage of contact scanners?
Option A:	It is based only on CMM
Option B:	Soft materials cannot be scanned accurately
Option C:	Very small size job (Nano-microns) can be scanned
Option D:	It takes more time to scan compared to non-contact type.
18.	Which one of the statement is correct?
Option A:	Product life cycle management is a part of project data management
Option B:	Project data management is a part of product life cycle management
Option C:	Computer integrated manufacturing is a part of product data management
Option D:	Product life cycle management excludes project data management
19.	_____ is one where mechanical forces or restricting forms are applied on a material so as to form it into the desired shape.
Option A:	Subtractive process
Option B:	Additive process
Option C:	Formative process
Option D:	Casting process
20.	STL files contains _____.
Option A:	Mass properties of the model
Option B:	Geometrical data
Option C:	Drawing data
Option D:	Colour data

<b>Q2.</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
A	Discuss advantages and limitations of any two RP file formats	
B	Explain working principle of SLS process	
C	Compare SGC with SLA and LOM	
D	Explain the process of Cast Kirksite Tooling in Rapid Tooling	
E	Explain the materials used in FDM process	



**University of Mumbai**  
**Examination 2020 under cluster 9 (FAMT)**

F	Define Virtual Reality and explain its features
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<b>Q3.</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	Explain the steps involved in Rapid Prototyping Process	
B	Explain SGC with respect to following parameters; Principle, process steps, advantages, limitations and applications	
C	Explain FDM with respect to following parameters; Principle, process steps, advantages, limitations and applications	

**University of Mumbai**

**Examination 2020 under cluster 8 (Lead College: PHCET, Rasayani)**

**Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021 to 20<sup>th</sup> January 2021**

Program: **B.E. AUTOMOBILE**

Curriculum Scheme: Rev 2016

Examination: BE Semester VIII

Course Code: AEDLO8043 and Course Name: Product Design and Development

Time: 2 hour

Max. Marks: 80

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<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	The objective of failure mode and effects analysis is to
Option A:	Anticipate product failures and prevent them from occurring
Option B:	Devise ways of minimizing the impacts of product failures when they occur
Option C:	Describe the interrelationships among product failures
Option D:	Quantify the likelihoods of different product failures
2.	Reverse engineering is the process of
Option A:	Translating executable code back into a higher-level language
Option B:	Using a product as a major part of a new product
Option C:	Analyzing a product to determine its original design
Option D:	Studying the original design of the product
3.	Quality function deployment turns
Option A:	Customer attributes into engineering attributes
Option B:	Engineering attributes into customer attributes
Option C:	Customer attributes into organization attributes
Option D:	Organization attributes into customer attributes
4.	Value analysis does not refer to which of the following value?
Option A:	Functional value
Option B:	Spiritual value
Option C:	Esteem value
Option D:	Exchange value
5.	Which of the following is not liquid based rapid prototyping system?
Option A:	Stereolithography (SLA)
Option B:	Laminated Object Manufacturing (LOM)
Option C:	Solid Ground Curing (SGC)
Option D:	Solid Object Ultraviolet-Laser Printer (SOUP)
6.	In Morphology of design which is the first stage
Option A:	Feasibility study
Option B:	Preliminary Design
Option C:	Detail design

Option D:	Planning for manufacture
7.	Which of these stages is not related to product life cycle
Option A:	Introduction
Option B:	Growth
Option C:	Maturity
Option D:	Prelaunch
8.	Generally the number of stages in product life cycle are
Option A:	10
Option B:	9
Option C:	8
Option D:	4
9.	The first stage in product life cycle is
Option A:	Introduction
Option B:	Growth
Option C:	Maturity
Option D:	Decline
10.	Which design consideration deals with appearance of the product?
Option A:	Ergonomics
Option B:	Aesthetics
Option C:	System design
Option D:	Creative design
11.	The next step after concept selection is
Option A:	Manufacturing
Option B:	Concept generation
Option C:	Concept costing
Option D:	Concept testing
12.	The meaning of blue colour is
Option A:	the component is hot
Option B:	the component is cold
Option C:	the component is safe
Option D:	there is possible danger
13.	Which of these factors is not associated with ergonomics
Option A:	Cost
Option B:	Temperature
Option C:	Furniture design
Option D:	Leg Length
14.	Which of these helps in establishing the interchangeability of products
Option A:	Simplification
Option B:	Standardization
Option C:	Diversification
Option D:	Specialization

15.	Which one of these is not related to rapid prototyping definition
Option A:	Layer by layer
Option B:	Physical model
Option C:	From 3D CAD data
Option D:	Production line
16.	Which of the following is not included in guidelines for DFA and DFM
Option A:	the mating parts for easy insertion
Option B:	Standardize parts to reduce variety
Option C:	Parts should easily indicate orientation for insertion
Option D:	Defective parts to be included
17.	Which of these is not a method used maximize ease of assembly
Option A:	Part is inserted from the top of the assembly
Option B:	Part is self-aligning
Option C:	Part is defective
Option D:	Part is secured immediately upon insertion
18.	Which of these is a third step in establishing product architecture
Option A:	Creating a schematic of the product
Option B:	Cluster the elements of the schematic
Option C:	Create a rough geometric layout
Option D:	Identify the fundamental and incidental interaction
19.	The Taguchi Approach is most closely associated with:
Option A:	Total Quality Management
Option B:	Concurrent engineering
Option C:	Quality function deployment
Option D:	Robust design
20.	The combination and improvements in the concepts is done in
Option A:	Concept generation
Option B:	Concept selection
Option C:	Concept testing
Option D:	Concept planning

<b>Q2</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	Explain value engineering and value analysis.	
B	Explain the psychological and physiological considerations in automotive product design.	
C	Explain the steps in concept generation.	

<b>Q3</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	Explain the product life cycle with an example.	
B	Explain the methods of design for manufacturing and assembly with suitable examples.	
C	Explain any one rapid prototyping technique with a neat labeled diagram.	

## University of Mumbai

### Examination 2020 under cluster 08 (Lead College: PHCET,0822)

Examinations Commencing from 23<sup>rd</sup> December 2020 to 6<sup>th</sup> January 2021 and from 7<sup>th</sup> January 2021  
to 20<sup>th</sup> January 2021

Program: **AUTOMOBILE ENGINEERING**  
Curriculum Scheme: R 2016

Examination: **BE**

Semester: **VIII**

Course Code: **AEDLO8044** and Course Name: **Transport Management and Motor Industry**

Time: 2 hour

Max. Marks: 80

Q1.	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	What is Form No. 31?
Option A:	Application for transfer of ownership in the name of the person succeeding to the possession of the vehicle
Option B:	Intimation of the change of address to be recorded in the Certificate of Registration
Option C:	Application for issue of International Driving Permit to drive a motor vehicle in other countries
Option D:	application for renewal of Certificate of Registration of a motor vehicle, other than a transport vehicle
2.	What is Form No. 03?
Option A:	Learner's License
Option B:	Self-declaration of physical fitness
Option C:	Medical Certificate
Option D:	Driving License
3.	What type of permit is necessary for transportation of passengers for organizations like MSRTC or BEST?
Option A:	Stage Carriage Permit
Option B:	Contract Carriage Permit
Option C:	Tourist Permit
Option D:	Taxi Permit
4.	If registration number of vehicle is 'MH09D4526', what does the numbers '09' indicate in this?
Option A:	RTO office where vehicle has been registered
Option B:	State to which the vehicle has been registered
Option C:	Class of the Vehicle
Option D:	Manufacturing Year
5.	Fill in the blank with proper option: "....." means a person in whose name a motor vehicle stands registered and where such person is a minor, the guardian of such minor, and in relation to a motor vehicle which is the subject of a hire-purchase, agreement, or an agreement of lease or an agreement of hypothecation, the person in possession of the vehicle under that agreement
Option A:	Owner
Option B:	Driver

Option C:	Authority
Option D:	RTO
6.	On what factor does the tax for private car depend?
Option A:	Cost of the vehicle
Option B:	Unladen weight
Option C:	Laden weight
Option D:	Color of the vehicle
7.	The amount paid by owner for obtaining the PUC Certificate of the vehicle is .....
Option A:	Charge of the Testing Facility
Option B:	Road tax
Option C:	Income tax
Option D:	Octroi tax
8.	How much tax is exempted for School bus owned by school?
Option A:	2/3 of annual rate
Option B:	100%
Option C:	1/3 of annual rate
Option D:	3/4 of annual rate
9.	No holder of a driving licence or a learner's licence shall permit it to be used by any other person. Comment on the above statement
Option A:	Statement is true
Option B:	Statement is false
Option C:	Statement has no meaning
Option D:	Statement does not give clear idea.
10.	Fill in the blank with proper option: "....." includes all signals, warning sign posts, direction posts, markings on the road or other devices for the information, guidance or direction of drivers of motor vehicles
Option A:	Traffic Signs
Option B:	Road Signs
Option C:	Turn Indicators
Option D:	Hand Signals
11.	Fill in the blank with proper option: Number Plate of Private Vehicle should have .....
Option A:	White background & black letters
Option B:	Black background & white letters
Option C:	Yellow background & black letters
Option D:	White background & red letters
12.	Public transport service which is primarily intended for moving passengers between two fix terminals is called ____
Option A:	Shuttle service
Option B:	Ferry service
Option C:	Coordinated service
Option D:	Door to Door service

13.	_____ Metro is the largest and busiest metro in India.
Option A:	Delhi
Option B:	Kolkata
Option C:	Chennai
Option D:	Mumbai
14.	The seating capacity of a bus is 50 and 65 commuters are travelling in that bus. Then the load factor is _____.
Option A:	1.3
Option B:	0.77
Option C:	1.15
Option D:	3.25
15.	The passenger pays full fare plus fixed token amount for reserved seat in advance to get _____.
Option A:	Reservation voucher
Option B:	Card ticket
Option C:	Pre-printed denomination tickets
Option D:	Scribe
16.	Which among the following comes under non-bulk transportation?
Option A:	Gasoline
Option B:	Fuel
Option C:	Oil
Option D:	Wood
17.	Useful life of cargo tanks used to export _____ years.
Option A:	20
Option B:	10
Option C:	30
Option D:	40
18.	The main objective of transportation is?
Option A:	Safe economical and efficient transport of goods and passengers
Option B:	Economical transport of goods
Option C:	Economical transport of passengers
Option D:	To generate revenue
19.	The Global Positioning System consists of _____ satellites
Option A:	24
Option B:	12
Option C:	48
Option D:	36
20.	Once both satellite and position are known for at least 4 satellites, the receiver can determine a position by .....
Option A:	Triangulation
Option B:	Trigonometry
Option C:	Spectrometry

Option D:	None
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<b>Q2</b> <b>(20 Marks Each)</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
A	Define educational institution bus and Heavy passenger motor vehicle.	
B	Which are the authority to collect tax?	
C	Explain difference between insurance and assurance.	
D	Explain various modes of transport.	
E	Write short note on solatium fund scheme	
F	What are the various techniques in traffic navigation system?	

<b>Q3</b> <b>(20 Marks Each)</b>	<b>Solve any Four out of Six</b>	<b>5 marks each</b>
A	Explain Accident claim procedure	
B	Write short note on STA and RTA	
C	What are rules and regulations of storage of petroleum products.	
D	Linkages between transport, live hoods assets & structural conditions.	
E	Explain the difference between state transport and private bus service.	
F	Write short note on GPS	