Program: BE Automobile Engineering

Curriculum Scheme: Revised 2016

Examination: Fourth Year (Semester VII)

Course Code: AEC701 and Course Name: Automotive Design

Time: 1 hour

Max. Marks: 50

0710_R16_AUTO_VII_AEC701_QP1

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

Q1.	The gears having velocity less than 3 m/s are termed as
Option A:	high-speed gears
Option B:	medium velocity gears
Option C:	internal gear
Option D:	low velocity gears
Q2.	The standard pressure angles are
Option A:	14 1/2° and 20°
Option B:	12 1/2° and 21°
Option C:	15 1/2° and 16°
Option D:	15 1/2° and 18°
Q3.	The ratio of number of teeth to the pitch circle diameter is called as
Option A:	module
Option B:	pitch point
Option C:	Diametral pitch
Option D:	Circular pitch
Q4.	If b denotes the face width and L denotes the cone distance, then the bevel
	factor is written as
Option A:	1 – 2 b.L
Option B:	1 – b / L
Option C:	b / 2L
Option D:	b/L
Q5.	If the total repetitive dynamic load acting on the gear tooth is greater than the
	beam strength of the gear tooth, then the gear tooth will fail in
Option A:	Bending
Option B:	pitting
Option C:	shear
Option D:	scoring

Q6.	A wet liner is a cylinder liner which has outer surface in direct contact with
	cooling water in the jacket. Whereas, a dry liner is a cylinder liner is one which
Option A:	May have direct contact with cooling water in the jacket.
Option B:	which does not have any direct contact with cooling water in the jacket.
Option C:	May have direct contact with adjacent cylinder.
Option D:	which does have any direct contact with cooling water in the jacket.
Q7.	When the thickness of the piston head is 6 mm or less,
Option A:	ribs are required
Option B:	ribs may be required
Option C:	no ribs are required
Option D:	ribs may or may not be required
Q8.	The side crankshaft has only one crank web and requires only two bearings for
	support whereas the center crankshaft has
Option A:	two webs and three bearings for support
Option B:	three webs and two bearings for support
Option C:	one web and two bearings for support
Option D:	two bearings and two web for support
Q9.	For the design of Centre Crankshaft At Top Dead Centre Position, the Design of
	Crank Pin is subjected to maximum bending moment is done considering
Option A:	Shear failure and bearing failure
Option B:	Bending failure and shear failure
Option C:	Bending failure and bearing failure
Option D:	Bending failure and compression failure
Q10.	t_h = 0.032 D + 1.5 mm, is an empirical formula for the thickness of the piston
	head and recommended by
Option A:	Euler's Formula
Option B:	Held and Favary
Option C:	Grashoff's formula
Option D:	Rankine's formula
Q11.	If number of contacting surfaces are 5, then number of disks required in multi
	disk clutch are?
Option A:	4
Option B:	6
Option C:	5
Option D:	3
Q12.	A clutch is usually designed to transmit maximum torque which is
Option A:	Equal to the maximum engine torque
Option B:	80% of the maximum engine torque
Option C:	150% of the maximum engine torque

Q13. How much coefficient of friction have in case of properties of material commonly used for lining of friction surface for pressed asbestos on cast iron or steel in dry operating conditions? Option A: 0.1 Option B: 0.2 Option D: 0.4 Ottion A: positive action clutch Option B: concentration Option C: 0.3 Option A: positive action clutch Option C: friction clutch Option B: cone clutch Option D: disc clutch Option C: Universal joints Option C: Universal joints Option C: Universal joints Option C: Universal joints Option C: block brake Option D: µ(4sin/	Option D:	70% of the maximum engine torque
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Option B:μ(2sinθ/2θ+sin2θ)Option C:μ(4sin2θ/2θ+sin2θ)Option D:μ(4sinθ/4θ+sin2θ)Q18.A force of 400 N is applied to the brake drum of 0.5m diameter in a band brake system. The wrapping angle is 180°. If the coefficient of friction between the drum and the band is 0.25, the braking torque applied, in Nm isOption A:100.6Option B:54.4Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to be Option A:Option B:self-lockingOption B:partially self-energizing	Option A:	μ(4sin/2Θ+sin2Θ)
Option C: μ(4sin2θ/2θ+sin2θ) Option D: μ(4sinθ/4θ+sin2θ) Q18. A force of 400 N is applied to the brake drum of 0.5m diameter in a band brake system. The wrapping angle is 180°. If the coefficient of friction between the drum and the band is 0.25, the braking torque applied, in Nm is Option A: 100.6 Option D: 54.4 Option D: 15.7 Q19. When friction force is great enough to apply the brake , the brake is said to be Option A: self-locking Option B: partially self-energizing	Option B:	μ (2sin Θ /2 Θ +sin2 Θ)
Option D:μ(4sinΘ/4Θ+sin2Θ)Q18.A force of 400 N is applied to the brake drum of 0.5m diameter in a band brake system. The wrapping angle is 180°. If the coefficient of friction between the drum and the band is 0.25, the braking torque applied, in Nm isOption A:100.6Option B:54.4Option C:22.1Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to be Option A:Option B:self-lockingOption B:partially self-energizing	Option C:	μ(4sin2θ/2θ+sin2θ)
Q18.A force of 400 N is applied to the brake drum of 0.5m diameter in a band brake system. The wrapping angle is 180°. If the coefficient of friction between the drum and the band is 0.25, the braking torque applied, in Nm isOption A:100.6Option B:54.4Option C:22.1Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to be Option A:Option B:self-lockingOption B:partially self-energizing	Option D:	μ (4sin Θ /4 Θ +sin2 Θ)
Q18.A force of 400 N is applied to the brake drum of 0.5m diameter in a band brake system. The wrapping angle is 180°. If the coefficient of friction between the drum and the band is 0.25, the braking torque applied, in Nm isOption A:100.6Option B:54.4Option C:22.1Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to be Option A:Option B:self-lockingOption B:partially self-energizing		
system. The wrapping angle is 180°. If the coefficient of friction between the drum and the band is 0.25, the braking torque applied, in Nm isOption A:100.6Option B:54.4Option C:22.1Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to beOption A:self-lockingOption B:partially self-energizing	Q18.	A force of 400 N is applied to the brake drum of 0.5m diameter in a band brake
drum and the band is 0.25, the braking torque applied, in Nm isOption A:100.6Option B:54.4Option C:22.1Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to beOption A:self-lockingOption B:partially self-energizingOption C:back place		system. The wrapping angle is 180°. If the coefficient of friction between the
Option A:100.6Option B:54.4Option C:22.1Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to beOption A:self-lockingOption B:partially self-energizing		drum and the band is 0.25, the braking torque applied, in Nm is
Option B:54.4Option C:22.1Option D:15.7Q19.When friction force is great enough to apply the brake , the brake is said to beOption A:self-lockingOption B:partially self-energizingOption C:back place	Option A:	100.6
Option C: 22.1 Option D: 15.7 Q19. When friction force is great enough to apply the brake , the brake is said to be Option A: self-locking Option B: partially self-energizing	Option B:	54.4
Option D: 15.7 Q19. When friction force is great enough to apply the brake , the brake is said to be Option A: self-locking Option B: partially self-energizing	Option C:	22.1
Q19. When friction force is great enough to apply the brake , the brake is said to be Option A: self-locking Option B: partially self-energizing	Option D:	15.7
Q19.When friction force is great enough to apply the brake , the brake is said to beOption A:self-lockingOption B:partially self-energizingOutline Cback step		
Option A: self-locking Option B: partially self-energizing	Q19.	When friction force is great enough to apply the brake , the brake is said to be
Option B: partially self-energizing	Option A:	self-locking
	Option B:	partially self-energizing
Uption C: back-stop	Option C:	back-stop

Option D:	self-acting
Q20.	Equivalent coefficient of friction can be calculated when
Option A:	20 is greater than 90°
Option B:	20 is less than 90°
Option C:	20 is less than 60°
Option D:	20 is greater than 60°
Q21.	Rise is the motion of follower
Option A:	away from cam
Option B:	follower is at rest
Option C:	follower moving towards cam centre
Option D:	none of the above
Q22.	Pressure angle of cam denotes
Option A:	velocity of cam
Option B:	size of cam
Option C:	steepness of curve
Option D:	load carrying capacity
Q23.	The efficiency of flat belt drive is 35%. If all the parameters are same and flat
	belt is replaced by V belt, than the efficiency of V belt will be?
Option A:	<35%
Option B:	>35%
Option C:	is equal to 35%
Option D:	Cannot be determined
Q24.	The force of friction between belt and V grooved pulley is high.
Option A:	Yes, supported by wedge action
Option B:	No
Option C:	There is no wedge action involved
Option D:	No relation
Q25.	Creep is the slight absolute motion of the belt as it passes over the pulley.
Option A:	Yes
Option B:	No, it is a relative motion
Option C:	None of the listed
Option D:	It is absolute motion

Program: BE in Automobile Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: AEC702 and Course Name: CAD/CAM/CAE

Time: 1 hour

Max. Marks: 50

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

points (1,3) and (7,2) having the tangent vector as (9,5) and (-1,-2) respectively 1Option A: 5.25 Option B: 2.5 Option D: 10.25 Q2.Equation of the parametric line :Option A: $P=P1+U(P2-P1)$ Option B: $P=P2+U(P2-P1)$ Option C: $P=P1-U(P2-P1)$
Option A: 5.25 Option B: 2.5 Option C: 8.25 Option D: 10.25 Q2.Equation of the parametric line :Option A: $P=P1+U(P2-P1)$ Option B: $P=P2+U(P2-P1)$ Option C: $P=P1-U(P2-P1)$
Option B: 2.5 Option C: 8.25 Option D: 10.25 Q2.Equation of the parametric line :Option A: $P=P1+U(P2-P1)$ Option B: $P=P2+U(P2-P1)$ Option C: $P=P1-U(P2-P1)$
Option C: 8.25 Option D: 10.25 Q2. Equation of the parametric line : Option A: P=P1+U(P2-P1) Option B: P=P2+U(P2-P1) Option C: P=P1-U(P2-P1)
Option D: 10.25 Q2. Equation of the parametric line : Option A: P=P1+U(P2-P1) Option B: P=P2+U(P2-P1) Option C: P=P1-U(P2-P1)
Q2.Equation of the parametric line :Option A:P=P1+U(P2-P1)Option B:P=P2+U(P2-P1)Option C:P=P1-U(P2-P1)
Q2.Equation of the parametric line :Option A: $P=P1+U(P2-P1)$ Option B: $P=P2+U(P2-P1)$ Option C: $P=P1-U(P2-P1)$
Option A: P=P1+U(P2-P1) Option B: P=P2+U(P2-P1) Option C: P=P1-U(P2-P1)
Option B: $P=P2+U(P2-P1)$ Option C: $P=P1-U(P2-P1)$
Option C: P=P1-U(P2-P1)
Option D: $P=P1+U(P2+P1)$
Q3. The models are popular as they are efficient and can be ideally used for
preview purpose such as in the case of rendering a complex model:
Option A: Surface modelling
Option B: Solid modelling
Option C: Wireframe modelling
Option D: CSG model
Q4. For generating Coons patch we require
Option A: A set of grid points on surface
Option B: A set of control points
Option C: Four bounding curves defining surface
Option D: Two bounding curves and a set of grid control points
Q5. The range of parameter u for Bezier curve is
Option A: 0 to 1
Option B: -1 to 1
Option C: 1 to 2
Option D: $0 \text{ to } \infty$
Q6. To carried out Reflection about any line $y = mx + c$, Steps are as follows.
Select the correct sequence.
1. Translate the working coordinate system (WCS) so that the line passes throug
the origin.
2. Reflect about the aligned axis

	3. Rotate the WCS such that one of the coordinate axis lies onto the line.
	4. Restore the WCS back by using the inverse rotation and translation
	transformation.
Option A:	1-2-3-4
Option B:	1-3-2-4
Option C:	2-1-3-4
Option D:	3-1-2-4
Q7.	If the object is defined by point A (3,5) and B (5,10) is rotated by 40 degree counterclockwise about the origin then new coordinates of point A will be
Option A:	(-0.91,5.75)
Option B:	(6.83,-1.83)
Option C:	(3.66,14)
Option D:	(5.22,6.83)
Q8.	If the scaling factors values s_x and s_y are more than 1, then
Option A:	It reduces the size of object
Option B:	It increases the size of object
Option C:	It stunts the shape of an object
Option D:	No effect on the shape of the object
Q9.	The value of homogeneous coordinate while performing transformation should
	always be equal to
Option A:	0
Option B:	1
Option C:	2
Option D:	any value
-	
Q10.	In 3D transformation, reflection is about a
Option A:	point
Option B:	line
Option C:	plane
Option D:	solid
- 1	
011.	Autodesk Fusion 360 can be interface by writing a program in
Option A:	Scilab
Option B:	Python
Option C:	Matlab
Option D:	R
opuon 2.	
012.	In programming for milling, the tool axis is considered as
Option A:	x axis
Option B:	v axis
Option C:	zaxis
Option D:	x or z axis
option D.	
013	In finish machining of an island on a casting with CNC milling machine an end
X ¹³ .	mill with 10 mm diameter is employed. The corner points of the island are

	represented by (0, 0), (0, 30), (50, 30) and (50, 0). By applying cutter radius right
	compensation, the trajectory of the cutter will be
Option A:	(-5,0), (-5, 35), (55, 35), (55, -5), (-5, -5)
Option B:	(0, -5), (55, -5), (55, 35), (-5, 35), (-5, -5)
Option C:	(5, 5), (5, 25), (45, 25), (45, 5), (5, 5)
Option D:	(5, 5), (45, 5), (45, 25), (5, 25), (5, 5)
Q14.	CNC drilling machine is considered to be a:
Option A:	Point-to-point controlled machine
Option B:	Straight line controlled machine
Option C:	Continuous path controlled machine
Option D:	Servo-controlled machine
-	
Q15.	G code for Tool length Compensation is
Option A:	G40
Option B:	G41
Option C:	G42
Option D:	G43
`	
Q16.	M code for Tool Change is
Option A:	M03
Option B:	M05
Option C:	M06
Option D:	M09
1	
Q17.	Process of numbering the node is called as
Option A:	Topology
Option B:	Analogy
Option C:	Tribology
Option D:	Geology
Q18.	Select the suitable option applicable when no. of nodes in each element increase,
Option A:	the order of the element increases
Option B:	the order of element decrease
Option C:	no change in the order of the element
Option D:	not possible to change the no. of nodes of the element
Q19.	
Oution A.	type of analysis is not a time dependent analysis
Option A:	type of analysis is not a time dependent analysis Static structural analysis
Option A: Option B:	type of analysis is not a time dependent analysis Static structural analysis Modal analysis
Option A: Option B: Option C:	type of analysis is not a time dependent analysis Static structural analysis Modal analysis transient analysis
Option A: Option B: Option C: Option D:	type of analysis is not a time dependent analysis Static structural analysis Modal analysis transient analysis Rigid Dynamics
Option A: Option B: Option C: Option D:	type of analysis is not a time dependent analysis Static structural analysis Modal analysis transient analysis Rigid Dynamics
Option A: Option B: Option C: Option D: Q20.	type of analysis is not a time dependent analysis Static structural analysis Modal analysis transient analysis Rigid Dynamics While performing FEA, the results are represent during
Option A: Option B: Option C: Option D: Q20. Option A:	type of analysis is not a time dependent analysis Static structural analysis Modal analysis transient analysis Rigid Dynamics While performing FEA, the results are represent during Preprocessing
Option A: Option B: Option C: Option D: Q20. Option A: Option B:	type of analysis is not a time dependent analysis Static structural analysis Modal analysis transient analysis Rigid Dynamics While performing FEA, the results are represent during Preprocessing Processing
Option A: Option B: Option C: Option D: Q20. Option A: Option B:	type of analysis is not a time dependent analysis Static structural analysis Modal analysis transient analysis Rigid Dynamics While performing FEA, the results are represent during Preprocessing Processing

Option D:	Post Processing
Q21.	High customer satisfaction is aspect of CIM
Option A:	Technological
Option B:	Economical
Option C:	Social
Option D:	Design
Q22.	The major elements of CIM is/are
Option A:	CAD
Option B:	CAD and CAM
Option C:	CAD, CAM and CABF
Option D:	САМ
Q23.	Choose the correct sequence to generate prototype.
Option A:	3D CAD data- CAD solid model -STL file- RP
Option B:	CAD solid model-3D CAD data- RP -STL file
Option C:	STL file - 3D CAD data- CAD solid model - RP
Option D:	3D CAD data-STL file- CAD solid model -RP
Q24.	The process suitable for the production of parts, molds and dies that are made out
	of tool steel is
Option A:	FDM
Option B:	LOM
Option C:	DMD
Option D:	SLS
Q25.	Which one of the process is NOT using laser?
Option A:	LOM
Option B:	SLS
Option C:	FDM
Option D:	SLA

Program: BE Automobile Engineering

Curriculum Scheme: Revised 2016

Examination: Fourth Year Semester VII

Course Code: AEDLOC7033 and Course Name: Automotive Aerodynamics and Aesthetics

Time: 1-hour

Max. Marks: 50

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

The pressure difference between upper and lower side of the vehicle produces a
at right angles to the direction of motion.
shear force
lateral force.
resultant force
parallel force
The techniques of shape optimization and computer simulations considering all the
geometrical parameters of shape were first implemented on model since from
1983.
Kamm
Jaray
Audi
Bugatti
Density of any material is defined as :
mass per unit volume
molecular friction
Volume per unit mass
heat by conduction
The of vehicle tire is dependent on the load, tire size and construction, tire
pressure and axle geometry.
Aerodynamic drag increases with the square of
Vehicle height
Vehicle area
Vehicle width
Vehicle speed
Wind twend test are word for related to

Option A:	Torque
Option B:	Flow Speed
Option C:	Acceleration
Option D:	Brake power
Q7.	Transonic wind tunnel test is applicable for a range according to the fluid flow of speed
Option A:	(M<0.8),
Option B:	(0.8 <m<1.2)< td=""></m<1.2)<>
Option C:	(1.2 <m<5.0)< td=""></m<5.0)<>
Option D:	(M>5.0)
Q8.	Which type of wind tunnel test are more suitable for aircraft design?
Option A:	Subsonic
Option B:	Transonic
Option C:	Supersonic
Option D:	Hypersonic
Q9.	Which value are considered of drag coefficient, while calculating the aerodynamic force
	for CIRCULAR PLATE shape of body?
Option A:	1.17
Option B:	0.47
Option C:	0.42
Option D:	0.5
-	
Q10.	When the vehicle has constant velocity, the force going to be Direction
Q10. Option A:	When the vehicle has constant velocity, the force going to be Direction Upward
Q10. Option A: Option B:	When the vehicle has constant velocity, the force going to be Direction Upward Forward
Q10. Option A: Option B: Option C:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward
Q10. Option A: Option B: Option C: Option D:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward
Q10. Option A: Option B: Option C: Option D:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward
Q10. Option A: Option B: Option C: Option D: Q11.	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle
Q10. Option A: Option B: Option C: Option D: Q11. Option A:	When the vehicle has constant velocity, the force going to beDirection Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D: Q12.	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D: Q12. Option A:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D: Q12. Option A: Option A: Option A:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D: Q12. Option A: Option B: Option B: Option C:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D: Q12. Option A: Option A: Option B: Option C: Option C: Option C:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag< Driving force
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D: Q12. Option A: Option B: Option B: Option C: Option D:	When the vehicle has constant velocity, the force going to beDirection Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag Driving force Driving force Driving force > Drag Vehicle dynamic is study of Motion Equations Static Geometry
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option A: Option C: Option C: Option A: Option A: Option B: Option C: Option C: Option D:	When the vehicle has constant velocity, the force going to beDirection Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag Driving force Driving force Driving force > Drag Vehicle dynamic is study of Motion Equations Static Geometry Drag Reduction System is designed to reduce
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option B: Option C: Option D: Q12. Option A: Option B: Option B: Option C: Option C: Option D: Q13. Option A:	When the vehicle has constant velocity, the force going to beDirection Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag> Driving force Dray> Driving force Driving force > Drag Vehicle dynamic is study of Motion Equations Static Geometry Drag Reduction System is designed to reduce Lift
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option A: Option C: Option A: Option A: Option B: Option C: Option D: Q13. Option A: Option A: Option A:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag Driving force Driving force > Drag Vehicle dynamic is study of Motion Equations Static Geometry Drag Reduction System is designed to reduce Lift Drag
Q10. Option A: Option B: Option C: Option D: Q11. Option A: Option A: Option B: Option C: Option A: Option B: Option C: Option C: Option D: Q13. Option B: Option B: Option C:	When the vehicle has constant velocity, the force going to be Direction Upward Forward Downward Backward What is relation of drag and driving force in accelerating condition of vehicle Drag= Driving force Drag> Driving force Drag> Driving force Driving force > Drag Vehicle dynamic is study of Motion Equations Static Geometry Drag Reduction System is designed to reduce Lift Drag Driving force

Option D:	Gravity
Q14.	In Drag Reduction System a rear wing creates force
Option A:	Upward
Option B:	Forward
Option C:	Downward
Option D:	Backward
Q15.	The friction drag along the underside of the vehicle is reduced with the aid of
Option A:	friction free bumper
Option B:	flat mudguard
Option C:	front radiator grill
Option D:	a front spoiler
Q16.	Vehicle dynamic is highly considerate of
Option A:	Mass, mass distribution & stiffness of the vehicle
Option B:	Speed, mass distribution & stiffness of the vehicle
Option C:	Speed, Speed distribution & stiffness of the vehicle
Option D:	Mass, Speed distribution & stiffness of the vehicle
Q17.	During shape optimization of cars efforts are made to avoid disturbances at any point
	either on upstream or downstream because it can affect the entire flow field increasing
	drag via
Option A:	density rise
Option B:	temperature rise
Option C:	pressure rise
Option D:	drag rise
Q18.	In the profile of low drags, more flattered windshield is also included because it
	improves the reduction in
Option A:	hot sun rays to the driver
Option B:	aerodynamic drag
Option C:	non visibility area
Option D:	temperature
Q19.	For maintaining the lowest possible distance between point of separation and point of re-attachment, the maximum possible angle of wind shield is
Option A:	40deg
Option B:	30deg
Option C:	60deg
Option D:	28deg
O20.	Front spoiler increases the volumetric flow through the cooling air duct and
Option A:	reduces the lift at the front of the car
Option B:	reduces drag by increasing the profile area
50000	

Option C:	reduces pitching
Option D:	reduces nose decking
•	
Q21.	The aerodynamic drag D, as well as the other force components and moments,
	increases with
Option A:	the cube of the vehicle
Option B:	the vehicle speed
Option C:	square root of the vehicle speed
Option D:	the square of the vehicle speed V
Q22.	A bluff body can be defined as a body that, as a result of its shape, has separated flow
	over a substantial part of its surface
Option A:	has separated flow over a substantial part of its surface
Option B:	has a combined flow of laminar and turbulent stream over a substantial part of its
Option C [.]	has a continuous flow over a substantial part of its surface
Option D:	has only a turbulent flow because of steepness over a substantial part of its surface
Option D.	
Q23.	The qualitative information is one which concerns the
Option A:	value of some variable
Option B:	Rate of change
Option C:	Condition or status of a system
Option D:	Presence or absence of some specific object
Q24.	The quantitative information is one which concerns the
Option A:	value of some variable
Option B:	Rate of change
Option C:	Condition or status of a system
Option D:	Presence or absence of some specific object
Q25.	For controlling the rotation through more than 360 degree, we use
Option A:	Knob
Option B:	Selector
Option C:	Crank
Option D:	Wheel

Examination 2020 under cluster

Program: BE _____ Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

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

Mitigation Measures

Time: 1 hour

Max. Marks: 50

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

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

Option A:	Risk acceptance
Option B:	Risk avoidance
Option C:	Risk reporting
Option D:	Risk reduction
Q7.	Which of the following is not a man-made hazard?
Option A:	Leakage of Toxic waste
Option B:	War
Option C:	Drought
Option D:	Environmental Pollution
Q8.	Which of the following are not the causes of manmade disaster?
Option A:	Technological
Option B:	Transportation
Option C:	Landslides
Option D:	Production errors
Q9.	Who heads the crisis management Committee
Option A:	Prime Minister
Option B:	President
Option C:	Cabinet Secretory
Option D:	Ministry Of Environment
Q10.	EMS technology helps in aread which are prone to effective disaster management
	except:
Option A:	Trials of evacuation and general disaster plans
Option B:	Training volunteers
Option C:	Construction of shelter
Option D:	Prevention of next emergency
Q11.	What is called for the manuals that identify the role of each officer in State for
	managing the natural disasters?
Option A:	State Relief Manuals
Option B:	State Environmental Protection Manuals
Option C:	State Disaster Manuals
Option D:	State Protection Manuals
012	
Q12.	The efforts taken by an ergenization
Option A:	I he efforts taken by an organization
Option B:	Money
Option C:	Vulnerability analysis
Option D:	The action plans
012	Turnen i'r en e en e he hei'r e
Q13.	I sunami s can occur only during
Option A:	Evening Aftermoon
Option B:	Anternoon Any time of the day or night
Option C:	Any time of the day or night
Option D:	Morning

Examination 2020 under cluster

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Q14.	Under which ministry Disaster Management Authority comes
Option A:	Ministry Of Environment
Option B:	Ministry of Foreign Affaires
Option C:	Ministry of Pollution
Option D:	Ministry of Home Affairs
Q15.	Which of the following components is not the part of EMS?
Option A:	Communication
Option B:	Recovery
Option C:	Budget
Option D:	Materials requirement
option D.	
016	Which the first step adopted for the assessment of the requests made by the state
Q10.	government to CENTRAL Government
Option A	Central Govt directly sends funds to State Govt
Option B:	The central team is deputed to make the on the spot assessment
Option C:	Finance Ministry Guides Contal Cover to release funds
Option D:	Union Home Secretary visits State Court of feated by Disaster
Option D:	Union Home Secretary visits State Govi affected by Disaster
017	What is CDDM2
Q17.	What is CDDM?
Option A:	Customers blased disaster management
Option B:	Cluster based disaster management
Option C:	Community based disaster management
Option D:	Consumer based disaster management
Q18.	The Richter scale expresses an earthquakes
Option A:	Magnitude
Option B:	Location
Option C:	Duration
Option D:	Depth
Q19.	Who is not first responder
Option A:	Police
Option B:	SDRF
Option C:	Fire and Medical Services
Option D:	NDRF
O20.	Which of the following component of EMS does not add a value to disaster
	management?
Option A:	Emergency medical services
Option B.	Hazardous Materials Management
Option C.	Prevention of disaster
Option D.	Response and Recovery
Option D.	
021	Prompt and effective response minimizes loss of life and property
Q21.	Prompt and effective response minimizes loss of me and property.
Option D:	Pasauraa Allasstian
Option B:	Resource Allocation

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

Examination 2020

Program: _

Curriculum Scheme: Rev 2016 Examination: Semester VII Course Code: ILO7012 and Course Name: Reliability Engineering

Time: 1 hour

Max. Marks: 50

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

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

Examination 2020

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

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

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

Option D:	32.17 hr/yr
015	
Q15.	Which of the following approach is not the redundancy approach?
Option A.	
Option A:	Unit redundancy
Option B:	Component redundancy
Option B .	component redundancy
Option C:	Strong component should be identified and strengthened for reliability
option of	strong component should be identified and strengthened for reliability
Option D:	Mixed redundancy
Ĩ	,
Q16.	For the successful operation of the system, the reliability of the system will be
	much better due to
Option A:	Absence of redundant element and proper operation one element
Option B:	Presence of redundant element and improper operation one element
Oration C:	
Option C:	Absence of redundant element and improper operation one element
Option D:	Presence of redundant element and proper operation and element
Option D.	resence of redundant element and proper operation one element
Q17.	In unit redundancy, for improving the reliability of the system, a similar system
-	should be added to the existing system in
Option A:	Series
Option B:	Both series and parallel
Outing C	
Option C:	parallel
Option D:	No connection
Option D.	
Q18.	Redundant system consisting of two or more component connected in parallel
_	and both components were operating simultaneously is called
Option A:	Standby redundancy
Option B:	Active redundancy
Option C:	Sitting redundancy
Onting D	The active we done and
Option D:	inacuve redundancy

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

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

University of Mumbai Online Examination 2020

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

Question Paper Set No._01

Note: Each question is for 2 marks.

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

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

	[3,	12, 13, 4, 10, 11, 9] and the processing times on machine B for the 7 jobs are [8, 9, 8,
	6, 1	3, 1, 3]. The optimum sequence of the jobs will have the first job going to machine A
	as -	
	a)	J1
	b)	J3
	c)	J7
	d)	J6
	Tra	velling Salesman Problem can be solved using: a-Simplex Method, b-Assignment
17.	Me	thod, c-Dynamic Programming, d- Waiting line Method
	a)	Only a
	b)	Only b
	c)	Only c
	d)	With b and d
18.	The	Vogel approximation method is used for solving transportation problems as it gives -
	a)	neither optimum nor feasible solution
	h)	both optimum and feasible solution
	c)	Ontimum but infeasible solution
	d)	Feasible but non-optimum solution
19	In t	he Dual Simplex Method, the Initial Table represents a solution -
17.	in t	that is fassible but not Optimel
	a) h)	that is both fassible and antimal
	(b)	that is optimal but not fassible
	() ()	naither entired per feesible
	d) Eor	a Maximization I DD if a constraint has a surplus variable, the artificial variable
20.	add	a maximization LFF, if a constraint has a surplus variable, the artificial variable
	auu	positive large co officient in the objective function
	a) b)	negative large co-efficient in the objective function
	(D)	zero co efficient in the objective function
	() ()	artificial variables are not required in Dual Simpley Mathod
21	(1) (1)	artificial variables are not required in Dual Simplex Wethou
21.	n u	Minimization, the dual of the dual for the primar LFF is
	a)	Minimization
	b)	
	c)	Can be Minimization or Maximization
	d)	Inteasible
22.	The	optimal solution in a linear programming model will
	a)	always be a slack variable
	b)	always be a surplus variable
	c)	always occur at an extreme point
	d)	always be outside the feasible solution space
	Ac	ompany produces two products: Product A and Product B. Each product must go
	thro	bugh two processes. Each Product A produced requires 2 hours in Process 1 and 5
	Pro	cess 2 There are 80 hours of capacity available each week in each process Each unit
23.	of H	Product A produced generates \$6.00 in profit for the company. Each unit of Product B
	pro	duced generates $\$9.00$ in profit for the company. If A = the number of units of
	Pro	duct A to produce each week and $B =$ number of units of Product B to produce each
	wee	ek, then the capacity constraint for Process 2 would be
	a)	$5A + 3B \ge 80$
	b)	$6A + 3B \leq 80$
	c)	$5A + 3B \le 80$
	d)	5A + 3B < 80

24.	A company produces two products: Product A and Product B. Each product must go through two processes. Each Product A produced requires 2 hours in Process 1 and 5 hours in Process 2. Each Product B produced requires 6 hours in Process 1 and 3 hours in Process 2. There are 80 hours of capacity available each week in each process. Each unit of Product A produced generates \$6.00 in profit for the company. Each unit of Product B produced generates \$9.00 in profit for the company. The optimal weekly profit for the company would be							
	a)	\$125						
	b)	\$150						
	c)	\$156						
	d)	\$162						
25.	The to e cap	e following trans ach destination acities and dema Source The optima	portatio in the up and requ Memp Bo Dema 1 solutio	n table sho oper right h lirements: Los A ohis oise aha and on is:	ows the cost on and corner of Destin Ingeles New L5 L3 L6 5,000	of shipping of each cell, nation v York Ho L ⁴ L ⁵ 7,500 Destinatior	one unit f as well as buston L^2 L^4 L^3 4,500	from each source s the supply 6,000 3,000 8,000 17,000
					Los Angele	s New Yor	k Houst	on_
		0		Memphis	0	1500	4500	0
		Sc	ource	Boise	3000	0	0	
	The	e total amount sh	ipped fr	om Boise	to Los Ange	les is:]
	a)	3	-rpea II	2011 20150				
	b)	6						
	c)	3,000						
	d)	5,000						

University of Mumbai Examination 2020 under cluster

Program: BE Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

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

Time: 1 hour

Max. Marks: 50

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

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

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

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

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

Examination 2020 under cluster

Program: BE_____ Engineering

Curriculum Scheme: Rev2016

Examination: Fourth Year Semester VII

Course Code: ILO7011 and Course Name: Product Life Cycle Management

Time: 1hour

Max. Marks: 50

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

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

University of Mumbai Examination 2020 under cluster

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

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

Examination 2020 under cluster

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

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

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

University of Mumbai Examination 2020 under cluster

Program: BE Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year	Semester VII
Course Code: ILO7014	Course Name: Design of Experiments
Time: 1 hour	Max. Marks: 50

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

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

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

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

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

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

UNIVERSITY OF MUMBAI CURRICULUM SCHEME R2016 EXAMINATION: FINAL YEAR SEMESTER VII

COURSE CODE ILO7019 COURSE NAME : DEVELOPMENT ENGINEERING TIME: 1 Hr Marks 50

QUESTION PAPER-1

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

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

	Development means a qualitative change which is always value			
Option B	positive			
Option C	Positive growth and development refer to changes over a period of time			
	Both growth and development refer to changes over a period of			
Option D	time.			
	The Human Development Index ranks the countries based on			
Q.No 14	their performance in the key areas of (1) health, (2) sex-ratio,		С	
	(3)education (4) access to resources			
Option A	1,2,3			
Option B	2,3,4			
Option C	1,3,4			
Option D	1,2,4			
Q.No 15	The multi-dimensional poverty index is a measure developed by the			
Option A	UNCTAD			
Option B	World Bank			
•				
Option C	International Monetary Fund IMF			
	Oxford poverty and human development initiative, OPHDI, and			
Option D	the UNDP			
Q.No 16	Which state has no Panchayati Raj Institution at all		Α	
Option A	Mizoram			
Option B	Manipur			
Ontion C	Arunachal Pradech			
Option D	Tripura			
00000				
Q.No 17	Which state first reserved 50% setas for women		D	
Option A	Andhra Pradesh			
Option B	Uttar Pradesh			
Option C	Madhya Pradesh			
Option D	Bihar			
Q.No 18	Which of the following system is established on the basis of direct election		А	
Option A	Gram Panchayat			
Option B	Block Committee			
Option C	Zila Parishad			
Option D	District			
Q.No 19	The following is true about khap panchayat		Α	
Option A	based on caste system			
Option B	Consists of elected representatives			
Option C	Are constitutional bodies			
Option D	Follow rule of law of the land			
Q.No 20	In which five year plan the Panchayat Raj System was introduced in India for the first time		В	

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

Q=QUESTION	question_description	question_explanation	question_type	question_difficulty
A=ANSWER	answer_description	answer_explanation	answer_isright	answer_position
			_	
Q	Which of them is not a wireless attack?		М	1
А	Eavesdropping		0	1
A	MAC Spoofing		0	2
A	Wireless Hijacking		0	3
A	Phishing		1	4
Q	Who deploy Malwares to a system or network?		М	1
	Criminal organizations, Black hat hackers,			
А	malware developers, cyber-terrorists		1	1
	Criminal organizations, White hat hackers,			
А	malware developers, cyber-terrorists		0	2
	Criminal organizations, Black hat hackers,			
A	software developers, cyber-terrorists		0	3
	Criminal organizations, gray hat hackers,			
A	Malware developers, Penetration testers		0	4
	Compromising confidential information comes			
Q	under		м	1
A	Threat		1	1
A	Bug		0	2
A	Vulnerability		0	3
A	Attack		0	4
	What is the best option for thwarting social-		-	
0	engineering attacks?		м	1
A	Technology		0	1
A	Training		1	2
A	Policies		- 0	3
A	Physical controls		0	4
0	Botnets are managed by		M	1
Δ	Bot-holders		0	1
Δ	Bot-herders		1	2
A A	Bot-trainers		1	2
Δ	Bot-creators		0	З Д
^	is a code injecting method		0	4
	is a code injecting method			
0	website		M	1
Q ^	HTML injection		0	1
A ^			0	2
A ^	Malicious code injection		1	2
A ^	XML Injection		0	5
A			0	4
	passwords,			
	he specially ingerprint for your small-prione,			
	because it can lead to physical nacking if you re			
<u>u</u>	not aware or asleep.			1
A			1	1
A	PIN-based		0	2
A	Alphanumeric		0	3
А	Short		0	4
	By default, Bluetooth devices operate in which			
Q	security mode?		М	1
A	Mode 1; "non-secure" mode		1	1

	Mode 2; leaving security up to each		
А	application.	0	2
А	Mode 3; enforce link encryption for all traffic.	0	3
	Mode 4; security settings default to a mobile		
А	policy server.	0	4
	Which of the following is NOT real security		
Q	threat?	м	1
A	Virus	0	1
A	Worms	0	2
A	Spam	1	3
А	Trojans	0	4
	A small piece of code used as a payload in the		
	exploitation of software vulnerability, is called		
0	as	м	1
A	Assembly code	0	1
A	Shell code	1	2
A	C and C++ code	0	3
A	Malicious code	0	4
	If you fall for a phishing scam, what should you		
0	do to limit the damage?	м	1
A	Change Username	0	1
A	Delete the phishing email.	0	2
	Unplug the computer. This will get rid of any		
А	malware	0	3
A	Change any compromised passwords	1	4
	What kind of attempts is made by individuals		-
	to obtain confidential information from a		
Q	person by falsifying their identity?	м	1
A	Phishing	1	1
A	Computer viruses	0	2
A	Spyware	0	3
A	Malware	0	4
	Phishers often develop		-
Q	websites for tricking users & filling their	м	1
A	Legitimate	0	1
A	Illegitimate	1	2
A	Genuine	0	3
A	Official	0	4
	is a generic term		
	which refers to all the legal and regulator		
Q	aspects of Internet and the World Wide Web	М	1
A	Cyber law	1	1
A	Cyber dyne	0	2
A	Cyber café	0	3
A	Electronic law	0	4
	Which factor determines when your IT system		
	will be available for knowledge workers to		
Q	access?	М	1
A	Reliability	0	1
А	Accessibility	0	2
A	Availability	1	3
A	Admissibility	0	4

	Accessing data without permission is known		
Q	as	М	1
A	unlawful access	0	1
A	Illegal Access	0	2
A	Legal Access	0	3
A	Unauthourized Access	1	4
	is the application of information and		
	communication technology (ICT) for delivering		
Q	government services	М	1
A	Governance	0	1
A	Governance and ethics	0	2
A	Electronic governance	1	3
A	Risk and governance	0	4
	The following cannot be exploited by assigning		
Q	or by licensing the rights to others	М	1
A	Patents	0	1
A	Designs	0	2
A	Trademark	1	3
A	Ownership	0	4
Q	When IT Act 2000 came into effect?	М	1
A	17 October,2000	1	1
A	11 November,2000	0	2
A	17 October,2001	0	3
A	11 November,2001	0	4
	Which section of IT Act deals with Hacking of		
Q	computer systems and its penalties?	М	1
A	Section 65	0	1
A	Section 66	1	2
A	Section 67	0	3
A	Section 69	0	4
	Which are the sections of IT Act applicable for		
Q	Cyber pornography?	М	1
A	66, 66A, 66B	0	1
A	67, 67A, 67B	1	2
A	67, 67C, 67D	0	3
A	43, 43D, 69D	0	4
	Penalty for Breach of confidentiality and		
Q	privacy is defined in section	М	1
А	71	0	1
A	72	1	2
A	73	0	3
A	74	0	4
Q	Sarbanes-Oxley Act (SOX) is used for	Μ	1
A	to stop hacking	0	1
A	protect equity shares	0	2
A	protect employee	0	3
	To protect shareholders and the general public		
	from accounting errors and fraudulent		
А	practices in enterprises	1	4
Q	HIPPA Act of 1996 stands for	М	1
А	Health Insurance Policy and Administration Act	 0	1
A	Health Insurance Policy and Accountability Act	0	2

	Health Insurance Portability and		
A	Administration Act	0	3
	Health Insurance Portability and Accountability		
A	Act	1	4
Q	NERC Stands for	М	1
A	North African Electric Reliability Corporation	0	1
А	North American Electric Reliability Corporation	1	2
	North American Electronic Reliability		
A	Corporation	0	3
	North American Electric Regularatory		
A	Corporation	0	4

Q=QUESTION	question_description	question_explanation	question_type	question_difficulty
A=ANSWER	answer_description	answer_explanation	answer_isright	answer_position
	analyzes customer data for			
	designing and executing targeted			
0	marketing campaigns		NA	1
Δ	Analytical CRM		1	1
Δ	Operational CRM		1	2
Δ	Collaborative CRM			3
Δ	Transactional CRM			S
1	Cybersquatting refers to the practice			
0	of		M	1
<u> </u>	Using someone else's domain names for			
А	profiting from their goodwill		1	1
	Buying competitors information for			
А	profiting		0	2
	Using illegal means to crash competitor's			
А	website		0	3
	Selling competitors information for			
А	profiting		0	4
	Social computing forces companies to			
Q	deal with customers		М	1
А	Reactively		0	1
А	Proactively		1	2
А	Neutrally		0	3
А	Economically		0	4
	Electronic commerce systems generally			
Q	includes all of the following except:		М	1
A	Internet websites for online sales		0	1
A	Extranet access of inventory databases		0	2
A	Direct links to credit reporting services		1	3
A	customer records		0	4

Q		М	1
А	LAN operations	0	1
А	Intranet	0	2
А	Web application	0	3
А	Hadoop	1	4
Q	Pervasive computing systems are	М	1
А	Context aware	1	1
А	Content aware	0	2
А	Network specific	0	3
А	Range specific	0	4
Q	and the cloud includes	М	1
А	Cost of data centres is higher	1	1
А	Cost of data centres is less	0	2
А	Cost of cloud is higher	0	3
А	Cost of cloud is less	0	4
Q	provided by the cloud	М	1
А	Community	0	1
А	Applications	0	2
А	Services	1	3
А	Features	0	4
Q	several computerized systems, such as	М	1
А	Sales force automation	0	1
А	Computer-integrated manufacturing	1	2
А	Product Lifecycle Management	0	3
А	Management of interdependent items	0	4
	information to managers in the functional		
Q	areas include	М	1
А	ERP systems	0	1
А	Business Intelligence System	0	2
А	Transaction Processing System	1	3
Α	HR Information Systems	0	4

	information that		
Q	falls outside certain threshold standards	М	1
А	Comparative reports	0	1
А	Drill-down reports	0	2
А	Exception reports	1	3
А	Routine reports	0	4
	supported by ERP systems comprises		
Q	of	М	1
A	Transaction and planning processes	0	1
А	processes	1	2
А	Processes	0	3
А	processes	0	4
	A business strategy that enables		
	manufacturers to share		
Q	product-related data that support product		1
А	Planning Production and Operations	0	1
А	Quality Control	0	2
А	Product Lifecycle Management.	1	3
А	Control and Auditing	0	4
Q	production process can follow:		1
А	Make-to-store and Make-to-sell	0	1
А	Make-to-process and Make-to-store	0	2
А	Best order, Least order	0	3
А	Make-to-stock and Make-to-order	1	4
Q	example of data?	Μ	1
А	301062	0	1
А	Blue	0	2
А	32, Primrose Hill	1	3
А	Mumbai	0	4
Q	Definition of Sample in MIS is		1
A	A tool used to collect statistical data	0	1

А	population	0	2
А	survey or other source is	0	3
А	A group chosen from a population	1	4
Q	advantage is to		1
А	lowest cost in the industry.	1	1
А	product features than your competitors.	0	2
А	new features to existing products	0	3
А	executes its internal business processes	0	4
Q	information and direct access to		1
А	Interface	0	1
А	Dashboard	1	2
А	Whiteboard	0	3
А	Openboard	0	4
Q	category into which all managerial	М	1
А	Operational control	0	1
А	Management control	0	2
А	Inventory control	1	3
А	Strategic planning	0	4
Q	composite attribute is converted to		1
А	First	1	1
А	Second	0	2
А	Third	0	3
А	Fourth	0	4
Q	users in visual formats such as text,		1
А	Image Processing	0	1
А	Data Visualization	1	2
А	Human Machine Interaction	0	3
А	Data Segmentation	0	4
Q	cause damage or to steal something is		1
А	Hacker	1	1
А	Cracker	0	2
А	Jammer	0	3

А	Spammer	0	4
Q	being inserted into another program	M	1
А	Worm	0	1
А	Virus	1	2
А	Sniffer	0	3
А	Spoofing	0	4
Q	with the aid of information technology is		1
А	Snooping	0	1
А	Electronic Surveillance	1	2
А	Investigation	0	3
А	Data collection	0	4
Q	frequently updated and is intended for		1
А	Weblog	1	1
А	Electronic bulletin boards	0	2
А	Newsgroups	0	3
А	Electronic discussions	0	4

Q=QUESTION	question_description	question_explanation	question_type	question_difficulty
A=ANSWER	answer_description	answer_explanation	answer_isright	answer_position
	The staggered grid can be used to			
Q	overcome		М	1
	decoupling of pressure and			
A	velocities		1	1
	decoupling of pressure and			
A	velocities		0	2
A	interpolation problems		0	3
А	boundedness problems		0	4
	How is pressure calculated in a			
Q	compressible flow?		М	1
A	Pressure correction equation		0	1
А	Equation of state		1	2
А	Momentum equation		0	3
A	Energy equation		0	4
Q	The SIMPLE algorithm is a		M	1
A	Weighted average method		0	1
A	Predictor-corrector method		1	2
A	Euler method		0	3
A	Heun's method		0	4
	Which of these does not			
Q	characterize a turbulent flow?		Μ	1
A	Time-independent		1	1
A	Rapid mixing		0	2
A	Three-dimensional fluctuation		0	3
A	Unstable		0	4
Q	What is Reynolds stress?		M	1
A	Stress due to velocity fluctuations		1	1
A	Tangential component of pressure		0	2
	Stress due to pressure fluctuations			
A			0	3
A	Normal component of viscosity		0	4
	For unsteady turbulent flows, which			
Q	of these averaging method is used?		M	1
A	Time averaging		0	1
A	Ensemble averaging		1	2
A	Spatial averaging		0	3
A	Volume averaging		0	4
	The Reynolds stress term arises in			
Q	the turbulent equation only when		М	1
A	two quantities are correlated		1	1
A	two quantities are uncorrelated		0	2
А	the flow is steady		0	3
A	the flow is unsteady		0	4

	CFD is the third approach for fluid flow		
	analysis. What are the other two		
Q	approaches?	М	1
A	Theoretical and experimental	1	1
A	Physical and Mathematical	0	2
A	Numerical and experimental	0	3
A	Experimental and physical	0	4
	Which of these will not come under the		
	three main elements of CFD packages?		
Q		М	1
A	Pre-processor	0	1
A	Post-processor	0	2
A	Code creator	1	3
A	Solver	0	4
	CFD packages solve the algebraic		
	equations of flow using		
Q	method.	М	1
A	Direct	0	1
A	Iterative	1	2
A	Analytical	0	3
А	Trial and error	0	4
	Which is the input part of a CFD		
Q	problem?	м	1
A	Post-processing	0	1
А	Flow visualization	0	2
A	Pre-processing	1	3
A	Solving	0	4
	Initial conditions are used for		
Q	problems.	М	1
A	time-dependent problems	0	1
А	boundary value problems	1	2
А	control volume problems	0	3
А	finite difference problems	0	4
	Among the unknowns of a flow		
	field, some of the properties are		
	given below. Which set contains		
Q	only thermodynamic properties?	М	1
	Density, pressure, specific internal		
A	energy, temperature	1	1
	Density, velocity, specific internal		
A	energy, temperature	0	2
	Velocity, pressure, specific internal		
А	energy, temperature	0	3
	Density, pressure, specific internal	_	
А		0	4
	Energy conservation equation is		
	fluid flow	NA	
Q 	Pressure		
л	1 1000110	0	L 1

А	Temperature	1	2
А	Density	0	3
А	Velocity	0	4
	What are the two major types of		
Q	boundary conditions?	Μ	1
А	Wall and symmetry	0	1
А	Inlet and outlet	0	2
A	Dirichlet and Neumann	1	3
A	Initial and physical	0	4
	Energy conservation equation is		
	necessary to solve this property of		
Q	fluid flow.	M	1
A	Pressure	0	1
A	lemperature	1	2
A	Density	0	3
A	Velocity	0	4
	expressions are used		
	when data to the left of a point at which		
	a derivative is desired are not available		
Q		M	1
А	Forward difference	1	1
А	Backward difference	0	2
A	Central difference	0	3
A	End difference	0	4
	expressions are used		
	when data to the right of the desired		
Q	point are not available.	М	1
A	Forward difference	0	1
А	Backward difference	1	2
A	Central difference	0	3
А	End difference	0	4
	Inmethods grid is laid out in a		
	regular repeating pattern called a block.		
Q		Μ	1
А	Structured grid	1	1
А	Unstructured grid	0	2
А	Hybrid grid	0	3
А	static grid	0	4
	The number of discretized equations is		
Q	equal to the number of	Μ	1
A	Discretized cells	1	1
A	Boundary conditions	0	2
A	Unknowns	0	3
A	Boundary-side elements	0	4
	The test used to check accuracy of		
Q	solution is called	м	1
A	Grid independence test	1	1
A	Solution test	0	2
A	Optimal test	0	3
8	• • • •		

А	Aspect test	0	4
	Triangular element is commonly used		
Q	in	м	1
A	Structured grid	0	1
A	Unstructured grid	1	2
А	Static grid	0	3
А	Dynamic grid	0	4
	The numerical method for solving the differential equations by approximating them with defference equations is		
Q	called	М	1
А	Finite volume	0	1
A	Finite difference	1	2
А	Finite element	0	3
A	Exact method	0	4
	The division of the physical domain into a finite number of discrete regions		
Q	1s called	M	1
A	Meshing	1	1
A	Generation	0	2
A	Division	0	3
А	Merging	0	4
	The SIMPLE algorithm used for		
Q	transient problems is	М	1
А	implicit and iterative	1	1
А	implicit and direct	0	2
А	explicit and iterative	0	3
A	explicit and direct	0	4

Program: BE Automobile Engineering	
Curriculum Scheme: Revised 2016	
Examination: BE SEM VII R-2016	
Course Code:AEDLO7032	
Course Name: AUTOMOTIVE EMBEDE	D SYSTEM
Time: 1hour	Max. Marks: 50

QUESTION NO.	QUESTIONS
QNO.1	The memory located close to the CPU on the computer motherboard is
Α	secondary memory
В	primary memory
С	hard disk drive
D	solid state drive
QNO.2	In memory, the data can be erased and reprogrammed by using ultraviolet (UV) light.
Α	PROM
В	EPROM
С	EEPROM
D	Flash Memory
QNO.3	A port is used to transmit multiple data at a time.
Α	ALU
В	timer
С	serial
D	parallel
QNO.4	Which are the two lines used in the I2C?
Α	SCL and status line
В	SDA and SPDR
С	SDA and SCL
D	SPDR and SCL
QNO.5	Which of the following is an example of parallel communication protocol?
Α	CAN
В	I2C
С	USB
D	ISA
QNO.6	CAN protocol is a method ofbetween various electronic devices.
Α	communication

В	disturbance
С	distribution
D	interference
QNO.7	The devices connected in CAN serial bus are also called as
Α	node
В	element
С	port
D	grid
QNO.8	A demultiplexer is one which takes
Α	single input and gives multiple outputs
В	single input and gives single output
С	multiple input and gives multiple output
D	multiple inputs and give single output
QNO.9	Demultiplexer is a digital
Α	switch
В	circuit
С	regulator
D	receiver
QNO.10	FlexRay delivers which of the following requirement for x by wire application
QNO.10 A	FlexRay delivers which of the following requirement for x by wire application time-determinism
QNO.10 A B	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error
QNO.10 A B C	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error
QNO.10 A B C D	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error
QNO.10 A B C D	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error
QNO.10 A B C D QNO.11	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system?
QNO.10 A B C D QNO.11 A	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input
QNO.10 A B C D QNO.11 A B	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN
QNO.10 A B C D QNO.11 A B C	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input
QNO.10 A B C D QNO.11 A B C D	FlexRay delivers which of the following requirement for x by wire applicationtime-determinismlimiting errorrandom errorprobable errorWhich of the following is network bus system?serial inputCANparallel inputline network
QNO.10 A B C D QNO.11 A B C D	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input line network
QNO.10 A B C D QNO.11 A B C D D	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input line network Steer by wire is removal ofcomponents and replacing it with electric
QNO.10 A B C D QNO.11 A B C D QNO.12	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input line network Steer by wire is removal ofcomponents and replacing it with electric power
QNO.10 A B C D QNO.11 A B C C D QNO.12 A	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input line network
QNO.10 A B C D QNO.11 A B C D QNO.12 A B	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input line network Steer by wire is removal ofcomponents and replacing it with electric power pneumatic hydraulic
QNO.10 A B C D QNO.11 A B C D QNO.12 A B C	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input line network Steer by wire is removal ofcomponents and replacing it with electric power pneumatic hydraulic electronic
QNO.10 A B C D QNO.11 A B C D QNO.12 A B C D D	FlexRay delivers which of the following requirement for x by wire application time-determinism limiting error random error probable error Which of the following is network bus system? serial input CAN parallel input line network series by wire is removal ofcomponents and replacing it with electric power pneumatic hydraulic electronic electrical

QNO.13	Which pin is used to transmit data out of SPI module when it is configured as a
	master and receive data when it is configured as slave?
Α	MOSI pin
В	MISO pin
С	Slave Select pin
D	Serial Clock pin
QNO.14	drive is also called as line shaft drive
Α	Individual drive
В	Multimotor drive
С	Group drive
D	class drive
	An electronic device that switches head lights of an automobile to low beam
QNO.15	mode automatically when the sharp lights off an oncoming vehicle falls on its
	windscreen is called as
Α	Auto dipper
В	Auto raiser
С	Auto changer
D	Auto turner
QNO.16	Which of the following is type of throttle poition sensor?
Α	Hall Effect
В	resistive
С	capacitive
D	transistor
ONO 17	MC9S12XD family is not available in nin package option
QINOIII	
Α	144-pin
В	112-pin
С	80-pin
D	60-pin
QNO.18	In MC9S12XD family, which of the following is not low power mode ?
A	Pseudo Stop Mode
В	Full Stop Mode
С	Freeze Mode
D	System Wait Mode
QNO.19	How many MSCAN module, MC9S12XD family has?
A	upto 2 module
В	upto 3 module

D upto 5 module QNO.20 What does SCI stand for? A Synchronous Control Input B Serial Communication Interface
QNO.20 What does SCI stand for? A Synchronous Control Input B Serial Communication Interface
QNO.20 What does SCI stand for? A Synchronous Control Input B Serial Communication Interface
A Synchronous Control Input B Serial Communication Interface
B Serial Communication Interface
C Sequential Control Interface
D Slave Control Input
In PWM each of the channels has a programmable period a
duty cycle as well as dedicated counter.
A 2
B 4
C 6
D 8
QNO.22 The pin of SCI is used to transmit data.
A TXD
B RXD
C SDL
D SCLK
QNO.23 IDE stands for
A Integrated Development Environment
B Intel Digital Environment
C Intelligient Device Enable
D Inter Device Editor
QNO.24 Which IDE Tool is used to convert source code into an executable file ?
A Project Manager
B Search Engine
C Build System
D Editor
QNU.25 Is used to generate final executable file from object code.
A Search Engine
B Linker
C Project Manager
D Complier

Program: BE –Automobile Engineering Curriculum Scheme: Revised 2016 Examination: Final Year Semester VII

Course Code: AEC703 and Course Name: Autotronics

Time: 1hour

Max. Marks: 50

=== 1210_R16_AUTO_VII_AEC703_QP1

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

Sr.No	Questions
1	A negative contact of battery is known as
а	Diode
b	Anode
c	Cathode
d	Cation
2	Specific gravity of an electrolyte in battery or cell is always
а	Less than 1
b	Equal to 1
c	Greater than 1
d	Less than 0.9
3	If we connect number of cells in series we get
а	High Power
b	High Current
c	High Voltage
d	Low Voltage
4	If a commercial lead acid battery has 13plates, the number of positive plates
	will be
а	7
b	8
c	6
d	9
5	Battery capacity is expressed as
а	Amperes
b	Watts
c	Ampere hour
d	kilowatts
6	The function of a rectifier in an alternator is to
a	change Alternating Current to Direct current
b	control alternator output current

c	change Direct Current to Alternating current
d	control alternator output voltage
7	What part of the AC generator is the rotating the magnetic field?
a	Stator
b	Rotor
с	Brushes
d	Poles
8	Alternator output voltage is directly related to:
a	Field strength
b	Rotor speed
c	Both field strength and rotor speed
d	Neither field strength nor rotor speed
9	An alternator consists of:
a	A stator, a rotor, sliprings, brushes, and diodes
b	A stator, an armature, sliprings, brushes, and diodes
с	A stator, a rotor, a commutator, brushes, and diodes
d	A stator, a rotor, a field relay, brushes, and diodes
10	Which of these is not a starter motor drive
a	Bendix drive
b	Rubber compression drive
с	Overrunning Clutch
d	Spool drive
11	When the driver turns the key to start position, an electric connection is made
	between the vehicle battery and the of an ignition coil
a	Ballast register
b	Primary winding
c	Secondary winding
d	Distributor
12	Which of these is not a major component in distributorless ignition system?
a	Ignition control unit
b	Electronic control unit
с	Crankshaft position sensor
d	Reluctor
13	In six cylinder engines distributor less ignition system the firing order is
a	1-4, 3-6, 2-5
b	1-3, 2-4, 5-6
с	2-4, 1-3, 5-6
d	1-4, 2-5, 3-6
14	How does a Capacitor Discharge Ignition system flows?
a	Battery - Oscillator transformer rectifier - Electronic switch – Capacitor -
	Coil - Spark

b	Electronic switch - Capacitor - Battery - Oscillator transformer rectifier -
	Coil - Spark
c	Battery - Electronic switch - Capacitor - Oscillator transformer rectifier -
	Coil - Spark
d	Electronic switch - Battery - Oscillator transformer rectifier - Capacitor -
	Coil - Spark
15	What does an actuator do?
а	it is an input device for an engine control system
b	it provides a mathematical model for an engine
c	it causes an action to be performed in response to an
	electrical signal
d	it indicates the results of a measurement
16	What does a sensor do?
а	it selects transmission gear ratio
b	it measures some variable
c	it is an output device
d	it sends signals to the driver
17	What is a MAP sensor?
а	a sensor that measures manifold absolute pressure
b	a vacation route planning scheme
c	a measurement of fluctuations in manifold air
d	an acronym for mean atmospheric pressure
18	The crankshaft angular position sensor measures
а	the angle between the connecting rods and the crankshaft
b	the angle between a line drawn through the crankshaft axis and a mark on the
	flywheel and a reference line
c	the pitch angle of the crankshaft
d	the oil pressure angle
19	What is the primary source of electricity to illuminate any light in
	automobile?
а	Overhead wire
b	Fuel
c	Battery
d	Engine
20	Why turn signal lights are used?
а	To produce ideal illumination inside the cabin of driver
b	To provide facility of light for other road users
c	To indicate an intended change in the direction by flashing lights on the side
	towards which the turn will be made
d	to produce ideal road illumination at considerable distance
21	Why two filaments are used in headlamp?
а	To provide light ahead the vehicle at two different positions as per
	requirement of the driver

b	To provide failsafe design
с	To provide high intensity of light instead of single filament bulb
d	To save energy by using parallel circuit for headlamp
22	Why the Halogen gas is used in Halogen headlamp?
a	To protect the filament
b	To protect the glass
c	To protect the electric circuit from getting heated
d	To provide high voltage across the filament
23	The science of sending, receiving and storing Information via
	telecommunication devices is
a	Informatics
b	Elastic
c	Phonetics
d	Telematics
24	How many embedded systems can there be in a modern car?
a	Only 1 ECU
b	Between 2 to5 ECUs
с	A dozen to nearly 100 ECUs
d	None
25	Telematics comprise electronic, electromechanical, and electromagnetic
	devices — usually made with
a	Nickel chromium micro machined components
b	Tempered aluminium components
c	Silicon micro machined components
d	Steel and copper alloys micro machined component