These are sample MCQs to indicate pattern, may or may not appear in examination

University of Mumbai
Online Examination 2020

Program: BE Automobile Engineering

Curriculum Scheme: Revised 2012

Examination: Fourth Year (Semester VII)

Course Code: **AEC703** and Course Name: **Automotive Design**

Time: 1 hour Max. Marks: 50

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

Q1.	In Aluminium alloy piston, the clearance is ..... that of the cast iron piston
Option A:	Half
Option B:	equal to
Option C:	less than
Option D:	twice
Q2.	The (l/D) ratio for the cylinder is usually assumed from .....
Option A:	1 to 1.5
Option B:	1.5 to 2
Option C:	1.25 to 2
Option D:	1.5 to 1.75
Q3.	The number of bolts used at the big end cap of the connecting rod is designed considering .....
Option A:	Friction force
Option B:	Shear force
Option C:	Bending stress
Option D:	inertia force
Q4.	Most internal combustion engines have a conventional ..... connecting rod.
Option A:	one-piece
Option B:	two-piece
Option C:	three-piece
Option D:	four-piece
Q5.	The connecting rod is ..... stronger for buckling about the YY-axis as compared to buckling about the XX-axis.

Option A:	one time
Option B:	two times
Option C:	three times
Option D:	four times
Q6.	In the design of the center crankshaft, two cases of crank positions are considered. They are (1) The crank is at an angle with the line of dead center positions & (2) .....
Option A:	The crank is at the TDC position
Option B:	The crank is at the BDC position
Option C:	The crank is before the TDC position
Option D:	The crank is after the TDC position
Q7.	The I-section is ideally suitable for the connecting rod. On the other hand, a circular cross-section is unnecessarily ..... for buckling about the YY-axis.
Option A:	weaker
Option B:	strong
Option C:	larger in size
Option D:	smaller in size
Q8.	The position of the crank of the petrol engine when torque is maximum is
Option A:	25 to 35 degree
Option B:	30 to 40 degree
Option C:	10 to 15 degree
Option D:	45 degree
Q9.	The link lengths in cam and follower are
Option A:	equal
Option B:	different
Option C:	variable
Option D:	fixed
Q10.	The size of cam depends on
Option A:	pitch circle
Option B:	base circle
Option C:	prime circle
Option D:	pressure angle
Q11.	The engine valves are closed by
Option A:	crankshaft
Option B:	valve springs
Option C:	camshaft
Option D:	timing device
Q12.	The helix angle for single helical gears ranges from
Option A:	10° to 15°

Option B:	15° to 20°
Option C:	20° to 35°
Option D:	35° to 50°
Q13.	The size of the gear is usually specified by
Option A:	pressure angle
Option B:	pitch circle diameter
Option C:	circular pitch
Option D:	diametral pitch
Q14.	If T is the actual number of teeth on a helical gear and ϕ is the helix angle for the teeth, the formative number of teeth is written as
Option A:	T sec3 ϕ
Option B:	T sec2 ϕ
Option C:	T/sec3ϕ
Option D:	T cosec ϕ
Q15.	In helical gears, the distance between similar faces of adjacent teeth along a helix on the pitch cylinders normal to the teeth, is called
Option A:	normal pitch
Option B:	axial pitch
Option C:	diametral pitch
Option D:	module
Q16.	The smaller gears inside the differential casing are
Option A:	Pinion Gear
Option B:	Sun Gear
Option C:	Side Gear
Option D:	Ring Gear
Q17.	Propeller shaft are subjected to….. force
Option A:	Tensile
Option B:	Compressive
Option C:	Shear
Option D:	Frictional
Q18.	Nipping is done to balance the _____stress in the full-length leaf and graduated length leaf
Option A:	shear
Option B:	tensile
Option C:	bending
Option D:	torsion
Q19.	The maximum torque of the Propeller shaft can be calculated by
Option A:	(Maximum torque of engine)*(first gear ratio)*(back axle ratio)
Option B:	(Minimum torque of engine)*(first gear ratio)*(back axle ratio)

Option C:	(Maximum torque of engine)*(second gear ratio)*(back axle ratio)
Option D:	(Maximum torque of engine)*(first gear ratio)
Q20.	Which of the following suspension system uses compressors?
Option A:	Rigid axle
Option B:	Independent
Option C:	Vertical guide
Option D:	Air suspension
Q21.	The process of removing air from the hydraulic brake system is known as
Option A:	Brake adjustment
Option B:	Brake bleeding
Option C:	Wheel alignment
Option D:	Brake alignment
Q22.	Telescopic shock observer consists of
Option A:	two chambers
Option B:	three chambers
Option C:	four chambers
Option D:	one chamber
Q23.	IBAS stands for
Option A:	integrated body assembly system
Option B:	intelligent body assembly system
Option C:	inline body assembly system
Option D:	in profile body assembly system
Q24.	Which manufacturer developed IBAS system?
Option A:	Audi
Option B:	Mercedez-Benz
Option C:	Porsche
Option D:	Nissan
Q25.	In manufacturing capacity constraints, we say
Option A:	When demand > actual capacity
Option B:	When demand < actual capacity
Option C:	When demand = actual capacity
Option D:	When demand is not equal to actual capacity