Examination: Third Year | Semester VI
Course Name: Automotive System | Course Code: AEC601
Time: 1 hour | Max. Marks: 50

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

Q1.	What is called the cornering force over the slip angle?
Option A:	Castor trail
Option B:	Cornering power
Option C:	Self-righting torque
Option D:	Pneumatic trail
Q2.	By using synchronizing device, the two involved adjacent gears have their speeds ……………
Option A:	increased
Option B:	reduced
Option C:	equalized
Option D:	unequalized
Q3.	The axle used in truck is
Option A:	Semi-floating
Option B:	fully-floating
Option C:	three-quarter floating
Option D:	half-floating
Q4.	In four wheel drive vehicle has
Option A:	no drive axle
Option B:	two drive axles at front
Option C:	one drive axle at rear
Option D:	two drive axles at rear
Q5.	Transmission noise in neutral could result from …………
Option A:	Worn gears
Option B:	Loose propeller shaft
Option C:	two turns
Option D:	Misadjusted gear linkage
Q6.	What antilock braking system does?
Option A:	Prevents the leakage of oil
Option B:	Prevents the vehicle from skidding
Option C:	Prevents the leakage of air
Option D:	Keeps the brake system free from moisture
Q7.	Which type of wheels is preferred in sports cars?
Option A:	Drum Wheel
Option B:	Magnesium alloy wheel

Option C:	Spoke wheel
Option D:	Casted wheel
Q8.	Where will an overinflated tire wear the thread most?
Option A:	In the cross direction
Option B:	Near the centre
Option C:	In the lateral direction
Option D:	Near the edge
Q9.	The hydrodynamic torque converter
Option A:	Gives a continuous variation of torque with increase of output speed
Option B:	Enables to get the max. h.p continuously
Option C:	Gives a speed variation without torque variation
Option D:	Maintains a high efficiency throughout the operating speed range
Q10.	If two meshing gears have 4:1 gear ratio and the smaller gear has 12 teeth, the large gear will have
Option A:	12 teeth
Option B:	24 teeth
Option C:	36 teeth
Option D:	48 teeth
Q11.	Why propeller shaft is made hollow?
Option A:	To increase whirling
Option B:	To reduce cost
Option C:	To reduce weight
Option D:	To increase cost
Q12.	Why propeller shaft is made hollow?
Option A:	To reduce whirling
Option B:	To reduce cost
Option C:	To increase whirling
Option D:	To increase cost
Q13.	In which of the configuration of epicyclic gearbox output will be forward and fast output speed?
Option A:	Sun gear stationary, ring gear driven, planet carrier driving
Option B:	Sun gear driving, ring gear driven, planet carrier stationary
Option C:	Sun gear driven, ring gear stationary, planet carrier driving
Option D:	Sun gear stationary, ring gear stationary, planet carrier driving
Q14.	The common clutch used between engine and synchromesh gear box is
Option A:	Cone clutch
Option B:	Single plate dry clutch
Option C:	Multiplate wet
Option D:	Electromagnetic
Q15.	Which of the following grade of oil is used as brake oil?

Option A:	Sae20
Option B:	20W40
Option C:	SAE30
Option D:	DOT3
Q16.	In a single dry plate clutch, torsional vibrations are absorbed by_____
Option A:	Coil springs known as torsional springs
Option B:	Cushion springs
Option C:	Central hub
Option D:	Clutch pedal
Q17.	in the differential the ring gear is bolted to the ……………..
Option A:	Differential housing
Option B:	Axle housing
Option C:	Differential case
Option D:	Drive pinion
Q18.	In centrifugal clutches, when is the contact between shoe friction lining and surface of drum observed?
Option A:	When centrifugal force is less than spring force
Option B:	When centrifugal force is greater than spring force
Option C:	When clutch pedal is pressed
Option D:	It has no relation
Q19.	In the steering gear, a gear sector or toothed roller is meshed with a …………….
Option A:	worm
Option B:	roller bearing
Option C:	Steering wheel
Option D:	steering column
Q20.	In case of heavy vehicle like truck, what type of suspension spring is used?
Option A:	Torsion spring
Option B:	Leaf spring
Option C:	Double wishbone spring
Option D:	Coil spring
Q21.	A multiplate clutch has three pairs of contact surfaces.The outer and inner radii of contact surfaces are 100mm and 50mm respectively.The maximum axial spring force is limited to 1 kN.If the coefficient of friction is 0.35 and assuming uniform wear,Find power transmitted by clutch at 1500 r.p.m.
Option A:	13.37 kW
Option B:	11.37 kW
Option C:	12.37 kW
Option D:	14.37 kW
Q22.	The only service that a steering linkage normally requires is ……………….
Option A:	tie-rod adjustment
Option B:	lubrication

Option C:	ball-joint replacement
Option D:	Friction
Q23.	Erratic steering is a result of ……………..
Option A:	broken or bent steering arms or knuckles
Option B:	Worn out brake lining
Option C:	insufficient lubricant
Option D:	too tight spherical ball joints
Q24.	According to uniform wear theory, frictional torque transmitted in flat collar bearing is given as
Option A:	2/3 [μ W (R1 - R2)]
Option B:	1/2 [μ W (R1 + R2)]
Option C:	2/3 μ W [(R1 + R2) / (R1 - R2)]
Option D:	4/3 μ W [(R1 + R2) / (R1 - R2)]
Q25.	A plate clutch consists of 1 pair of contacting surfaces. The inner and outer diameter of the friction disk is 100mm and 200mm respectively. The coefficient of friction is 0.2 and permissible intensity of pressure is 1.5N/mm². Assuming uniform wear theory, calculate the torque transmitting capacity of the clutch.
Option A:	412.23N-m
Option B:	353.43N-m
Option C:	334.53N-m
Option D:	398.34N-m