Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VIII

Course Code: MEE8026 and Course Name: automobile engg

Time: 1 hour Max. Marks: 50

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

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| Q1.  | A battery can be charged by |
| Option A: | Adding distilled water |
| Option B: |  Adding sulphuric acid |
| Option C: | Applying voltage in the reverse direction to that of charging |
| Option D:  |  Applying a voltage in the same direction to that of charging |
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| Q2. | The main characteristics of a maintenance free (MF) battery is that |
| Option A: |  A maintenance free battery requires little maintenance during normal use and it is sufficient to add water instead of an electrolyte containing sulphuric acid |
| Option B: | A maintenance free battery has a relatively short shelf life when compared with standard batteries |
| Option C: |  Since it is sealed, the water in maintenance free battery is not lost through evaporation thus accordingly it is not necessary to top up the cells with water |
| Option D: |  Recharging of a maintenance free battery is neither required nor possible |
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| Q3. | The clutch used in the car usually  |
| Option A: | Multiple disc type |
| Option B: | Single disc type |
| Option C: | Centrifugal type |
| Option D: | Semi-centrifugal type |
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| Q4. | A clutch is usually design to transmit maximum torque which is |
| Option A: | 80% of maximum engine torque |
| Option B: | 150% of maximum engine torque |
| Option C: | Equal to maximum engine torque |
| Option D: | Less than engine torque |
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| Q5. | Clutch facing are usually attached to the plate by |
| Option A: | Brass rivet |
| Option B: | Steel rivet |
| Option C: | Steel screw |
| Option D:  | Aluminum screw |
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| Q6. | In epicyclic gearbox Sun gear stationary, ring gear driven, planet carrier driving configuration will give |
| Option A: | Fast output speed. |
| Option B: | Slow output speed. |
| Option C: | Zero output speed. |
| Option D:  | Medium output speed. |
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| Q7.  | Which component of drive line allow the propeller shaft to transfer torque at an angle. |
| Option A: | Slip Joint  |
| Option B: | Universal Joint |
| Option C: | Weld joint |
| Option D:  | flanges |
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| Q8.  | Which group of parts transmit power form engine to rear wheel of  |
| Option A: | Crank shaft and flywheel |
| Option B: | Power train |
| Option C: | Electrical system of vehicle. |
| Option D:  | Steering assembly. |
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| Q9. | Which component is not member of power train |
| Option A: | Clutch |
| Option B: | Propeller shaft |
| Option C: | Differential |
| Option D:  | Brake mechanism |
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| Q10.  | The inner end of the axle shaft is splined to |
| Option A: | sun gear |
| Option B: | Planet pinion |
| Option C: | Crown wheel. |
| Option D:  | Worm and worm wheel. |
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| Q11.  | A vehicle without body is called as  |
| Option A: | Tyre. |
| Option B: | Chassis. |
| Option C: | Airbag |
| Option D:  | Driverless car  |
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| Q12.  | Square hollow section is the most efficient section against  |
| Option A: | Bending |
| Option B: | Tensile stress |
| Option C: | Fatigue |
| Option D: | Creep |
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| Q13. | Which one is the best cross-section for resisting bending of longitudinal member is |
| Option A: | channel section |
| Option B: | Angle section |
| Option C: | I-Section |
| Option D:  | Hollow triangular section. |
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| Q14.  | Which one is not part of chassis system? |
| Option A: | Engine and radiator |
| Option B: | Transmission system |
| Option C: | Road wheel |
| Option D:  | Sun visor |
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| Q15. | Which one is not type of chassis? |
| Option A: | Ladder |
| Option B: | Monocoque |
| Option C: | Space |
| Option D:  | Volume |
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| Q16.  | On rebound, in the direct acting shock absorber, fluid flows out of the upper part of the cylinder and also .. |
| Option A: | Out of the dust shield |
| Option B: | Out of the reservoir |
| Option C: | Into the reservoir |
| Option D:  | Into the dust shield |
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| Q17. | The weight or pressure required to deflect a spring in mm is called the spring |
| Option A: | Weight |
| Option B: | Deflection |
| Option C: | Rate |
| Option D: | Rebound |
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| Q18. | The clips placed at intervals along some leaf spring to prevent spring leaf separation on rebound, are called |
| Option A: | Rebound clips |
| Option B: | Separation clips |
| Option C: | Interval clips |
| Option D:  | Relief clips |
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| Q19.  | In a vehicle with torque tube drive, the rear suspension spring |
| Option A: | Takes up driving thrust and torque reaction |
| Option B: | Supports load and takes up end thrust |
| Option C: | Takes up braking thrust and torque reaction |
| Option D:  | Takes up end thrust and torque reaction |
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| Q20. | With a leaf spring type of suspension, interference between steering and suspension system can be reduced to minimum when |
| Option A: | Front end of the spring is pin joined and the rear end is shackled |
| Option B: | Front end of the spring is shackled and rear end is pin jointed |
| Option C: | Both end of the spring are shackled |
| Option D: | Both ends of the springs are pin jointed |
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| Q21. | The energy absorb by brake is always kinetic. |
| Option A: | No, potential |
| Option B: | Kinetic or potential |
| Option C: | Potential |
| Option D:  | Strain Energy |
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| Q22.  | A solid cast iron disk of mass 1000kg is rotating at 350rpm. Diameter of the disk is 1m and time taken to come to stop the disk by brake is 1.6sec.Calculate energy absorbed by the brake if square of radius of gyration is 0.2. |
| Option A: | 165.7kJ |
| Option B: | 134.3kJ |
| Option C: | 165.3kJ |
| Option D:  | 134.2kJ |
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| Q23. | A solid cast iron disk of mass 1000kg is rotating at 350rpm. Diameter of the disk is 1m and time taken to come to stop the disk by brake is 1.6sec.Square of radius of gyration is 0.2. Calculate the angle through which disk rotated during braking period. |
| Option A: | 27.5rad |
| Option B: | 24.6rad |
| Option C: | 29.3rad |
| Option D:  | 32.4rad |
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| Q24.  | When brakes are applied on a moving vehicle; the kinetic energy is converted to |
| Option A: | Mechanical energy |
| Option B: | Heat energy |
| Option C: | Electrical energy |
| Option D:  | Potential energy |
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| Q25. | Tandem master cylinder consists of |
| Option A: | one cylinder and one reservoir |
| Option B: | two cylinders and one reservoir |
| Option C: | one cylinder and two reservoirs |
| Option D:  | two cylinders and two reservoirs |