Second Year

AUTOMOBILE ENGINEERING TECHNICIAN

Second Year (P.C. 309/71)

Subject : Auto Transmission and Electrical System
Paper - I

Time : 3 Hours

Max. Marks : 50

1. Perform the following task in the given single plate clutch

(a) Dismantle with suitable tools

(b) Clean and identify the components

(c) Inspect each component for wear and tear

(d) Assemble the components

2. Perform the following task on the given multiplate clutch

(a) Dismantle with suitable tools

(b) Clean and identify the components

(c) Inspect each component for wear and tear

(d) Assemble the components

3. Perform the following task on the given sliding mesh gear box

(a) Dismantle with suitable tools

(b) Clean and identify the components

(c) Inspect each component for wear and tear

(d) Assemble the components

4. Perform the following task on the given constant mesh gear box

(a) Dismantle with suitable tools

(b) Clean and identify the components

(c) Inspect each component for wear and tear

(d) Assemble the components

5. Perform the following task on the given differential unit

    (a) Dismantle with suitable tools

    (b) Clean and identify the components

    (c) Inspect each component for wear and tear

    (d) Assemble the components

6. Perform the following task on given propeller shaft with U joint

    (a) Dismantle with suitable tools

    (b) Clean and identify the component

    (c) Inspect each components for wear and tear

    (d) Assemble the components

7. Perform the following task on the given rear axle

    (a) Dismantle with suitable tools

    (b) Clean and identify the components

    (c) Inspect each component for wear and tear

    (d) Assemble the components

8. Perform the following task on the given wheel assembly

    (a) Dismantle with suitable tools

    (b) Clean and identify the components

    (c) Inspect each component for wear and tear

    (d) Assemble the components

9. Perform the tyre rotation of the given vehicle

    (a) Remove the complete wheels

    (b) Identify the tyre specification

    (c) Check the tyre for wear and tear and also for damage

    (d) Rotate and fix tyres as the manufacturer manual

10. Perform the following task on the given alternator

    (a) Dismount the alternator from the vehicle

    (b) Dismantle the parts of the alternator

    (c) Clean and inspect the components

    (d) Service and re-assemble the components

11. Perform the following task on the given voltage regulator

    (a) Check the working condition

    (b) Find the faults

    (c) Make adjustments if necessary

    (d) Refit into the vehicle

12. Perform the following task on the given current regulator

    (a) Identify the specification of regulator

    (b) Check the working condition

    (c) Find the faults

    (d) Make necessary adjustments

13. Perform the following task on the given self starter motor

    (a) Dismount the selfstarter from the vehicle

    (b) Dismount the parts

    (c) Clean and inspect the components

    (d) Re-assemble the components

14. Perform the following task on the given wiper motor

    (a) Dismount the wiper

    (b) Check the working condition

    (c) Find faults

    (d) Make necessary adjustments

15. Perform the following task on the given horn circuit

    (a) Identify the wiring circuit of the horn

    (b) Check the working condition of the horn

    (c) Make necessary adjustments

    (d) Refit the horn circuit

16. Perform the following operation of the given headlight ciruit

    (a) Check the head light alignment

    (b) Check the beam length

    (c) Make the necessary adjustments

    (d) Refit the headlight

17. Check the following parameters on the given Battery

    (a) Specific gravity

    (b) Cell charge condition

    (c) Voltage condition

    (d) Cadmium tip test

18. Check the following parameters on the given battery ignition system

    (a) Identify the components of the ignition system

    (b) Check the battery condition

    (c) Check the working condition of the components

    (d) Make necessary adjustments or replace the components necessary.

19. Perform the following check on speedometer cum Odo meter

    (a) Check the working condition of speedo meter and Odo meter

    (b) Check the cable condition and connections

    (c) Check the gear drive at the wheel hub

    (d) Make necesary adjustments or replace.

AUTOMOBILE ENGINEERING TECHNICIAN

Second Year

MODEL QUESTION PAPER

Subject : Auto Transmission and Electrical System

Paper - I

Time : 3 hours **Max. Marks : 50**

1 x 40 = 40 marks

16. Perform the following operation of the given headlight ciruit

(a) Check the head light alignment

(b) Check the beam length

(c) Make the necessary adjustments

(d) Refit the headlight

Record	**5 Marks**
Viva	**5 Marks**

Note : The Serial numbers of the questions mentioned above are the serial numbers in question bank. In practical examiantion only the serial number of the questions will be given, the examiner shall decode it with question bank and give the questions.

AUTOMOBILE ENGINEERING TECHNICIAN

Second Year

PRACTICAL SCHEME OF VALUATION

Subject : Auto Transmission and Electrical System

Paper - I

Time : 3 hours **Max. Marks : 50**

Section - I **(4 x 10 = 40 Marks)**

(i) Work done for each sub question	:	7 Marks
(ii) Procedure writing for each sub question	:	3 Marks

Section II

Record	:	5 Marks
Viva	:	5 Marks

AUTOMOBILE ENGINEERING TECHNICIAN

Second Year (P.C. -309/72)

Subject : Automobile Chassis and Body Engineering

Paper - II

Time : 3 Hours **Max. Marks : 50**

1. Make adjustments in the steering Linkage
    (a) To remove the steering linkage
    (b) To clean, check for any wear and tear
    (c) To adjust the steering linkages
    (d) To refit the linkages to the vehicle
2. Adjust the Castor Angle
    (a) To check the castor angle
    (b) To adjust the castor angle
    (c) To check for wear and tear
    (d) To refit it
3. Adjust the Camber angle
    (a) To check the camber angle
    (b) To adjust the camber angle
    (c) To check for wear and tear
    (d) To refit it
4. Adjust the kingpin inclination of the given vehicle
    (a) To check the kingpin inclination
    (b) To adjust the kingpin inclination
    (c) To align the weheel
    (d) To refit it
5. Adjust the Toe-in and Toe-out of the vehicle
    (a) To check for toe-in of the given vehicle

(b) To refit the wheels

(c) To adjust the wheels properly

(d) To adjust the toe-in and toe-out properly

6. Adjust the mechanical brakes of the vehicle

(a) To remove the mechanical brake links

(b) To adjust the brake cam and brake drum

(c) To adjust the brakes

(d) To refit it

7. Test the master cylinder of the given vehicle

(a) To remove the master cylinder from the vehicle

(b) To check for any leakages, wear and tear etc.

(c) To replace the spare parts if necessary

(d) To refit it

8. Test the wheel cylinder of the given vehilcle

(a) To remove the wheel cylinder from the vehicle

(b) To check for any leakages, wear and tear etc.

(c) To replace the spare parts if necessary

(d) To refit and adjust in vehicle

9. Adjust the Air braking system

(a) To check the air braking system

(b) To clean and adjust the air braking system

(c) Check it with vehicle

(d) To refit the assembly

10. Adjust manual window regulating mechanism

(a) To dismantle the window regulator from the vehicle

(b) To check for any adjustment required

(c) To use spare parts required

(d) To refit the window regulating mechanism

11. Dismantle and adjust the power window regulating mechanism

(a) To dismantle the window regulator from the vehicle

(b) To check for any adjustment required

(c) To use spare parts required

(d) To refit the window regulating mechanism

12. Adjust the automobile air conditoning system

(a) To dismantle automobile air conditioning system

(b) To check for any leakages or troubles

(c) To adjust the air conditioning system

(d) To refit it

13. Repair the door lock mechanism

(a) To remove the door lock mechanism

(b) To check for any wear and tear

(c) To adjust the door lock mechanism

(d) To refit into the door

14. Adjust the leaf spring assembly

(a) To remove the leaf spring assembly from the vehicle

(b) To adjust the required adjustments

(c) To clean and assemble parts

(d) To refit it

15. Adjust the hydraulic shock absorber

(a) To remove hydraulic shock absorber from the vehicle

(b) To check for any wear and tear

(c) To fill in the shock absorber with oil

(a) To refit it into the vehicle

16. Adjust the wish bone arm independent suspension system

(a) To remove the wish bone arm system from the vehicle

(b) To check for any wear and tear

(c) To adjust it if required

(d) To refit it

17. Adjust the trailing link indpendent suspension system

(a) To remove the trailing linksystem from the vehicle

(b) To check for any wear and tear

(c) To adjust it if required

(d) To refit it

18. Adjust the worm and sector type steering gear

(a) To remove the worm & sector type steering gear from the vehicle

(b) To adjust it if required after cleaning

(c) To check for wear and tear

(d) To refit

19. To adjust the rack and pinion steering gear

(a) To dismanle the rack & pinion steering gear from the vehicle

(b) To adjust the system if necessary

(c) To clean the relevant parts

(d) To refit it into vehicle

AUTOMOBILE ENGINEERING TECHNICIAN

Second Year

MODEL QUESTION PAPER

Subject : Automobile Chassis and Body Engineering

Paper - II

Time : 3 hours **Max. Marks : 50**

1 x 40 = 40 marks

12. Adjust the automobile air conditoning system

(a) To dismantle automobile air conditioning system

(b) To check for any leakages or troubles

(c) To adjust the air conditioning system

(d) To refit it

Record	**5 Marks**
Viva	**5 Marks**

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AUTOMOBILE ENGINEERING TECHNICIAN

Second Year

PRACTICAL SCHEME OF VALUATION

Subject : Automobile Chassis and Body Engineering

Paper - I

Time : 3 hours **Max. Marks : 50**

Section - I **(4 x 10 = 40 Marks)**

(i) Work done for each sub question	:	7 Marks
(ii) Procedure writing for each sub question	:	3 Marks

Section II

Record	:	5 Marks
Viva	:	5 Marks

AUTOMOBILE ENGINEERING TECHNICIAN

Second Year (P.C. 309/73)

Subject : Automobile Guarage and Maintenance

Paper - III

Time : 3 Hours

Max. Marks : 50

1. Perform the following task on the given engine.

(a) Dismantle the engine with the suitable tools

(b) Decarbonize the components

(c) Inspect the component for wear and tear

(d) Assemble the components.

2. Perform the reboring operation on the given engine

(a) Separate the cylinder block and cylinder head with suitable tools.

(b) Inspect the cylinder bore for taper wear and ovality wear.

(c) Carry out re-boring operation on the worn out cylinder bore

(d) Assemble the cylinder and cylinder block after measuring the bore diameters

3. Perform the horning operations on the given cylinder block

(a) Measure the cylinder bore diameter and finishing

(b) Carry out the horning operation on the cylinder bore.

(c) Measure the finishing of the cylinder bore.

(d) Assemble the cylinder and cylinder head.

4. Perform the valve seat cutting and grinding operation on the given cylinder head.

(a) Inspect the valve seat for wear and tear

(b) Carry out the cutting operations on valve seat

(c) Carry out the grinding operations on valve seat

(d) Measure the valve seat to check the even cutting.

5. Perform the valve refacing operation on the given valve

(a) Inspect the valve face for uneven wear

(b) Carry out the valve refacing operation

(c) Carry out the value grinding operation.

(d) Inspect the valve face to check the even cutting

6. Perform the turning operations on the given brake drum.

(a) Inspect the break drum for wear and tear

(b) Carry out the drum turning operation

(c) Inspect the drum bearings

(d) Inspect the drum for even cutting

7. Perform the brake liner reviting operation on the given brake shoe.

(a) Removal of brake shoe from brake drum

(b) Inspect the brake liner for wear and tear

(c) Remove the old brake liner

(d) Reverting of new brake liner

8. Perform the brake bleeding operations on the given braking system of the vehicle.

(a) Inspect the brake condition

(b) Check the oil level in the master cylinder

(c) Carry out the bleeding operaitons

(d) Check the brake efficiency

9. Perform the wheel alignment process on a given vehicle with the wheel aligning machine.

(a) Measure the Caster and Camber angle.

(b) Measure the toe-in and toe-out and kingpin inclination

(c) Rectify the above angles

(d) Check the steering geometry angles

10. Perform the wheel balance operations

(a) Remove the wheel assembly from the vehicle

(b) Check the wheel balance

(c) Carry out the static balancing operation

(d) Carry out the dynamic balancing operation

11. Perform the test on FIP

(a) Remove the FIP from engine

(b) Carry out the phasing test

(c) Carry out the calibration test

(d) Assemble the FIP to the engine

12. Perform the test on Fuel injector

(a) Remove the injector from the engine

(b) Perform the pressure test

(c) Carry out the spray test and leak off test.

(d) Fix the injector to the engine

13. Perform the Crankshaft grinding operation on the line boring machine

(a) Remove the crankshaft from the engine

(b) Inspect the crank shaft for wear and tear

(c) Perform the line boring operation

(d) Refix the crankshaft to the engine

14. Perform the servicing on two-wheeler engine

(a) Carry out the weekly checks

(b) Carry out the monthly checks

(c) Carry out the quarterly checks

(d) Carry out the halfyearly checks

15. Perform the servicing on two-wheeler power train
    (a) Carry out the weekly checks
    (b) Carry out the monthly checks
    (c) Carry out the quarterly checks
    (d) Carry out the halfyearly checks
16. Perform the servicing on three-wheeler power plant
    (a) Carry out the weekly checks
    (b) Carry out the monthly checks
    (c) Carry out the quarterly checks
    (d) Carry out the halfyearly checks
17. Perform the servicing on three-wheeler power train
    (a) Carry out the weekly checks
    (b) Carry out the monthly checks
    (c) Carry out the quarterly checks
    (d) Carry out the halfyearly checks
18. Perform the servicing on four-wheeler (Car) engine
    (a) Carry out the weekly checks
    (b) Carry out the monthly checks
    (c) Carry out the quarterly checks
    (d) Carry out the halfyearly checks
19. Perform the servicing on four-wheeler (Car) Power train
    (a) Carry out the weekly checks
    (b) Carry out the monthly checks
    (c) Carry out the quarterly checks
    (d) Carry out the halfyearly checks

AUTOMOBILE ENGINEERING TECHNICIAN

Second Year

MODEL QUESTION PAPER

Subject : Automobile Guarage and Maintenance

Paper - III

Time : 3 hours **Max. Marks : 50**

1 x 40 = 40 marks

17. Perform the servicing on three-wheeler power train

(a) Carry out the weekly checks

(b) Carry out the monthly checks

(c) Carry out the quarterly checks

(d) Carry out the halfyearly checks

Record **5 Marks**

Viva **5 Marks**

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AUTOMOBILE ENGINEERING TECHNICIAN

Second Year

PRACTICAL SCHEME OF VALUATION

Subject : Automobile Guarage and Maintenance

Paper - I

Time : 3 hours **Max. Marks : 50**

Section - I **(4 x 10 = 40 Marks)**

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(ii) Procedure writing for each sub question	:	3 Marks

Section II

Record	:	5 Marks
Viva Voce	:	5 Marks