



Government of Karnataka
Karnataka School Examination and Assessment Board
II Year PUC Supplementary Examination May/June-2023
Scheme of Evaluation

Subject: - Automobile

Subject Code: 63NS

NO OF QUESTIONS:-37]

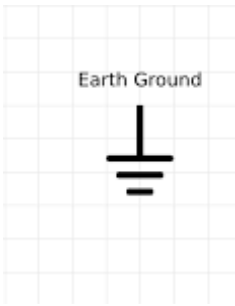
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[MAX MARKS:60

PART-A

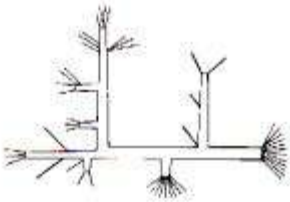
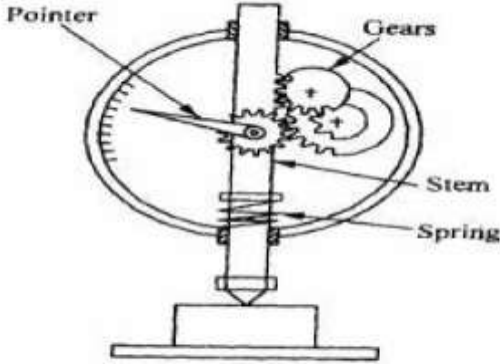
Q.NO	ANSWERS	MARKS
A	CHOOSE THE CORRECT ANSWER	10x1=10
1)	a) Manufacturer	1
2)	c) Metal	1
3)	d) RPM	1
4)	b) Small	1
5)	b) Hardness	1
6)	c) Spring	1
7)	d) Propeller shaft	1
8)	b) Wheel base	1
9)	a) Generator	1
10)	b) Resistance	1

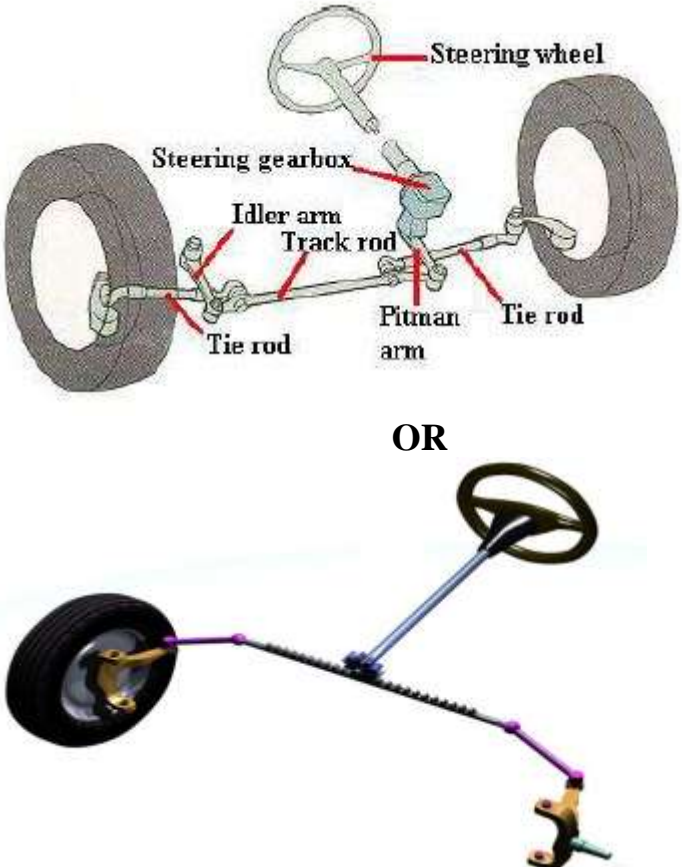
		<u>PART-B</u>	
B	ANSWER THE FOLLOWING QUESTIONS	10x2=20	
(ANSWER ANY 10)			
11)	<ul style="list-style-type: none"> • The manufacturers develop service manual which gives clear cut ideas of their product. • The service manual helps to teach the technicians to work on the vehicle systematically to solve the problems as well as to provide service to maintain originality. 	1 1	2
12)	<ul style="list-style-type: none"> • Automotive bolts often known as threaded fasteners is one of the types of auto fasteners that comprises of either a threaded pin or rod having a head at one end. • The bolts are inserted through holes in assembled parts and fastened by a mated nut with a help of torque. Therefore a bolt is an externally threaded headed fastener, which is used in conjunction with a nut. 	1 1	2
13)	<p>The measuring instruments, which do not require the help of other instruments for measuring, are called direct measuring instruments. Usually these instruments have a line, which is divided in equal parts, called graduated scale.</p> <p>Ex:-Steel scale</p>	2	
14)	<ul style="list-style-type: none"> • A poppet valve is a valve typically used to control the timing and quantity of gas or vapour flow into an engine. • It consists of a hole, usually round or oval, and a tapered plug, usually a disk shape on the end of a shaft also called a valve stem. 	1 1	2
15)	<ul style="list-style-type: none"> • Cooling is necessary because high temperature damages engine components and changes the viscosity of lubricants. • The cooling system protects the engine components by circulating coolant through the passages provided in cylinder block, cylinder head. • The heat is collected by the coolant and the coolant will be sent to radiator. • The radiator radiates the heat and cools down the coolant temperature. <p style="text-align: right;">(Any two)</p>	1 1	2
16)	<p>MPFI mean Multi Point Fuel Injection system. In this system each cylinder has number of injectors to supply/spray fuel in the cylinders as compared to one injector located centrally to supply/spray fuel in case of single point injection system.</p>	2	

17)	Propeller shaft : Propeller shaft is used to transmit engine power to the rear drive axles. The propeller shaft is mounted between the gearbox and differential and thus the engine power is transmitted to the driving wheels.	2	
18)	An automatic transmission is also called automatic gearbox, is a type of motor vehicle transmission that can automatically change gear ratios as the vehicle moves, freeing the driver from having to shift gears manually.	2	
19)	<ul style="list-style-type: none"> • The leaf spring acts as a linkage for holding the axle in position and thus separate linkage are not necessary. • It makes the construction of the suspension simple and strong. • As the positioning of the axle is carried out by the leaf springs • · The inter-leaf friction between the leaf springs affects the riding comfort. <p style="text-align: right;">(Any TWO)</p>	1 1	2
20)	A steering linkage is the part of an automotive steering system that connects to the front wheels..Steering linkages consist of drag link (pitman arm), tie rod, ball joint, end joint, arm assembly, torsion bar, and steering shock absorber, bushes of steering axis, steering arm and stub axle.	2	
21)		2	
22)	Jumper wires, test lights, voltmeters, ammeters, and ohmmeters.	2	
23)	<ul style="list-style-type: none"> • Brown Cables • Yellow Cables • White Cables • Green Cables • Blue Cables <p style="text-align: center;">OR</p> <p>Automobile cables can be classified into three main categories :</p> <ul style="list-style-type: none"> • Starting system cables • General purpose cables • High-tension cables. 	2	

		<u>PART-C</u>	
C	ANSWER THE FOLLOWING (ANSWER ANY SIX)	6x3=18	
24)	<ul style="list-style-type: none"> • Index • Page number • Expanded view of assembly • Disassembly sequence • Tolerances, gazes, sizes of components • Serviceability • Life span • Decision for Repair or Replacement • Assembly procedure and • Working test procedure <p style="text-align: right;">(Any 6)</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>	3
25)	 <p style="text-align: right;">Diagram:-3 marks</p>	3	
26)	<p>Removal of unheaded screw</p> <ul style="list-style-type: none"> • If the screw is broken at the top of the assembly. • Remove the other screw and separate the assembly. • Hold the jaws of the cripper on broken screw. • Lock the cripper and turn anti clock wise. • Screw may come out. 	3	

27)	<ul style="list-style-type: none"> • Micrometer is precision measuring instrument and also called screw gauge. • Used by engineers and technicians for inspection and measuring the distance between two faces. • Micrometer consists of anvil, ratchet, spindle , locknut and etc. • It works on the principle of Screw and nut. • Generally LC of Micrometer is 0.01 mm. <p style="text-align: right;">(Any 3)</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p>	<p style="text-align: center;">3</p>
28)	<ul style="list-style-type: none"> • To seal the combustion chamber so that there is no transfer of combustion gases from the chamber to the crankcase. • Supporting heat transfer from the piston to the cylinder wall. • Regulates engine oil consumption and avoids oil leakage. • To withstand compression pressure during compression and power stroke. <p style="text-align: right;">(Any 3)</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p>	<p style="text-align: center;">3</p>
29)	<ul style="list-style-type: none"> • Do not misplace the parts. • Keep the removed nuts/bolts properly in the tray. • Do not misplace the parts. • Keep the removed nuts and bolts properly in the tray. 	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p>	<p style="text-align: center;">3</p>
30)	<ul style="list-style-type: none"> • Maintaining the correct vehicle ride height • Reducing the effect of shock forces to the vehicle • Maintaining the correct wheel alignment • Supporting the vehicles driving stability • Keeping the vehicles tyres in contact with the road • Control of vehicle's direction of travel. • Maintain the centre of gravity, when vehicle is moving. 	<p style="text-align: center;">$\frac{1}{2}$</p> <p style="text-align: center;">$\frac{1}{2}$</p> <p style="text-align: center;">$\frac{1}{2}$</p> <p style="text-align: center;">$\frac{1}{2}$</p> <p style="text-align: center;">$\frac{1}{2}$</p> <p style="text-align: center;">$\frac{1}{2}$</p>	<p style="text-align: center;">3</p>
31)	<ul style="list-style-type: none"> • Brown Cables • Yellow Cables • White Cables • Green Cables • Blue Cables <p style="text-align: right;">(Any 3)</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p>	<p style="text-align: center;">3</p>

32)	 <p>The harness consists of bunches of cables leading to the various components to be connected. Each bunch is bound together with a PVC tape, leaving sufficient lengths of individual cables protruding at each end for making the necessary electrical connections easily.</p>	3	
33)	<p>Types of Fuse There are three basic types of fuses:</p> <ul style="list-style-type: none"> • Glass or ceramic fuses • Blade-type fuses • Bullet or cartridge fuses 	1 1 1	3
<u>PART-D</u>			
D	ANSWER THE FOLLOWING (ANSWER ANY 2)		2x6=12
34)	 <p style="text-align: center;">Mechanism of dial gauge</p> <p style="text-align: right; margin-right: 100px;">Diagram-6mark</p>		6

35)	<ul style="list-style-type: none"> • Dismantle the cylinder head from the engine. • Remove the carbon from the head, and piston head. • Clean the piston head. • Add little quantity of precision blue in petrol and with the help of dropper, • The mixture on the valve face. • Remove the valves using a valve spring compressor, observe the valve leakage. • Blue colour shows leakage area. • Clean the valves with a wire brush • Be careful not to interchange the valves. 	<p>1 1 1 1 1 1</p>	6
36)	 <p style="text-align: center;">OR</p>		6
		<p>Diagram-5mark parts-1Marks</p>	

37)	<ul style="list-style-type: none"> • Battery acid is very corrosive. Do not allow it to come in contact with skin, eyes, or clothing. • When making connections to a battery, be careful to observe polarity, • When disconnecting battery cables, always disconnect the negative (ground) cable first. • When connecting battery cables, always connect the negative cable last. • Avoid any arcing or open flames near battery. • Follow manufacturer's instructions when charging battery. • Do not add additional electrolyte to the battery if it is low. Add only distilled water. • Do not wear any jewelry or watches while servicing the battery. <p style="text-align: right;">(Any SIX)</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p>	<p style="text-align: center;">6</p>
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