

II PUC EXAMINATION-2023

SCHEME OF EVALUATION - SUBJECT: - AUTOMOBILE (63NS)

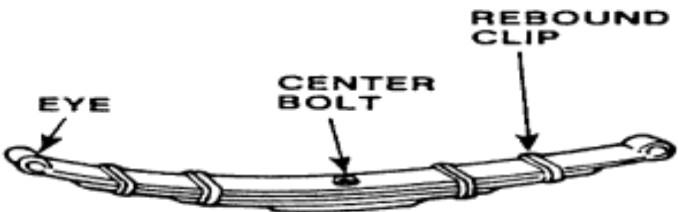
NO OF QUESTIONS:-37]

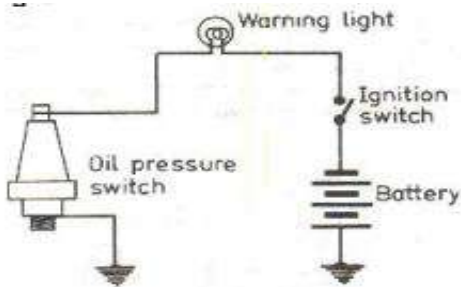
[NO OF PAGES:-08]


[MAX MARKS:60

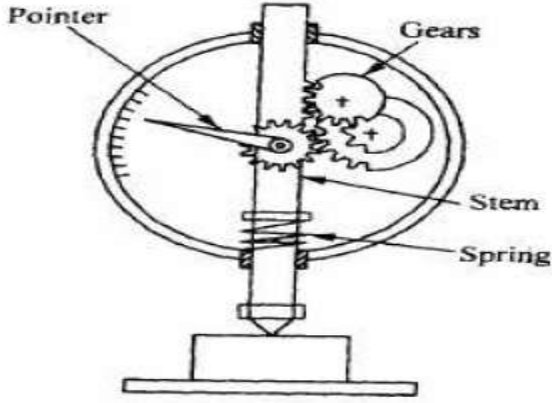

PART-A

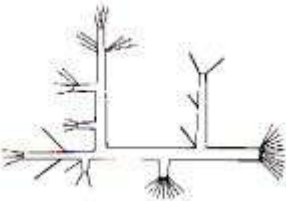

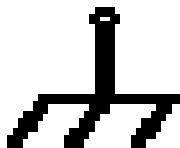
Q.NO	ANSWERS	MARKS	
A	CHOOSE THE CORRECT ANSWER	10x1=10	
1)	d) Service manual	1	
2)	a) Threaded	1	
3)	b) Temperature	1	
4)	c) Crank case	1	
5)	b) Spring	1	
6)	d) Gearbox and differential	1	
7)	d) Spring	1	
8)	b) Wheel base	1	
9)	a) Head lamp	1	
10)	b) Negative	1	
<u>PART-B</u>			
B	ANSWER THE FOLLOWING QUESTIONS (ANSWER ANY 10)	10x2=20	
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)	Bolts, Nuts, Screw, Stud, Rivets, Shims, Pin Etc	2	
13)	The indirect measuring instruments which measure the dimensions indirectly mean using direct measuring instruments indirectly for measuring, are called indirect measuring instruments. example calipers ,inside calipers , outside calipers etc.	2	
14)	Valve mechanism are classified as given below 1. Overhead valve mechanism (OHV) 2. Overhead Cam mechanism (OHC)	1 1	2
15)	<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 two</p>	1 1	2
16)	<ul style="list-style-type: none"> • ECM • Sensor • Actuators • Processor 	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
17)	clutch, gear box, propeller shaft/ drive shafts	2	
18)	<ul style="list-style-type: none"> • Automated manual transmission (AMT) • Continuously variable transmission (CVT). 	1 1	2
19)	 <p style="text-align: center;">Fig-Leaf spring Diagram:-2 marks</p>	2	

20)	<p>To reduce the steering effort at steering wheel turning power steering is used, mainly two types of power steering system is used in automobile i.e hydraulic and electronically operated motor.</p>	2	
21)	<p>Automobile cables can be classified into three main categories :</p> <ol style="list-style-type: none"> 1. Starting system cables 2. General purpose cables 3. High-tension cables. <p style="text-align: center;">Or</p> <ol style="list-style-type: none"> 1. Brown Cables 2. Yellow Cables 3. White Cables 4. Green Cables 5. Blue Cables 	2	
22)	<div style="text-align: center;">  <p>Fig.: Oil Pressure Warning Light</p> </div> <p style="text-align: right;">Diagram:-2 marks</p>	2	
23)	<ul style="list-style-type: none"> • Heating, ventilation and air conditioning (HVAC) system. The HVAC system controls heat and the removal of humidity. • The HVAC system uses an air distribution system of ducts, vents and doors to direct outside air or climate controlled air into the vehicle passenger compartment. 	1 1	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>	1/2 1/2 1/2 1/2 1/2 1/2	3
25)	 <p style="text-align: center;">Diagram:-3 marks</p>	3	
26)	<ul style="list-style-type: none"> • plain washers • Spring washers • locking washers 	1 1 1	3

27)	<p>Dial gauge works on the rack and pinion principle.</p>  <p>Mechanism of dial gauge</p> <p>Diagram:-2 Mechanisms:-1</p>	1 2	3 3
28)	<p>A valve is a valve typically used to control the timing and quantity of gas or vapour flow into an engine.</p>  <p>Diagram:-2</p>	1 2	3 3
29)	<ul style="list-style-type: none"> • Place the vehicle on the level ground. • Raise the vehicle at a specific height. • Remove the clutch linkage connection from the bell housing. • Remove propeller shaft from companion flange of the gear box. • Loose and remove nut/bolt of clutch housing and gearbox housing. • Mark the position of cover on the flywheel. • Remove all the bolts of pressure assembly from the fly wheel. 	1/2 1/2 1/2 1/2 1/2 1/2	3 3

30)	<ul style="list-style-type: none"> • Thoroughly clean the leaf spring set and its fittings, • Lubricate each leaf with graphite grease, • Tighten the u clamp bolts /nuts with specified torque, • Check the centre bolt, • Tighten the clamp nut bolt with specified torque, • Check the slackness of shackle and tighten the set if needed • Avoid overloading vehicle. • Avoid sudden acceleration and breaking. 	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	3
31)	<p>Functions of Multimeter</p> <ul style="list-style-type: none"> • Multimeter is an electric measuring instrument • They can measure voltage current and resistance • Test diodes, measure frequency, duty cycle, temperature, and rotation speed. 	1 1 1	3
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>a) Diode</p>  <p>b) Chassis ground</p> <p>Symbol = a) $1\frac{1}{2}$ and b) $1\frac{1}{2}$</p>	3	

PART-D

D

ANSWER THE FOLLOWING

(ANSWER ANY 2)

2x6=12

34)

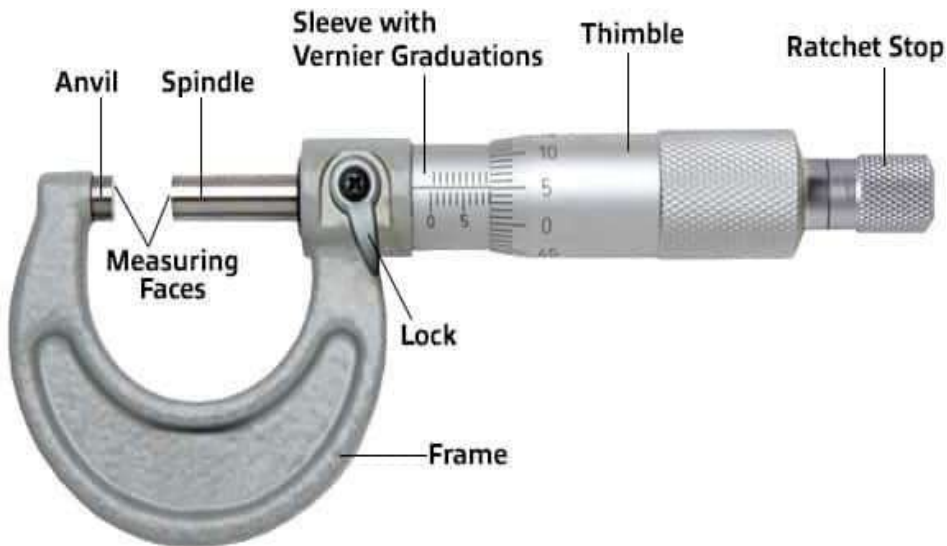


Diagram-5mark ,Parts-1 mark

6

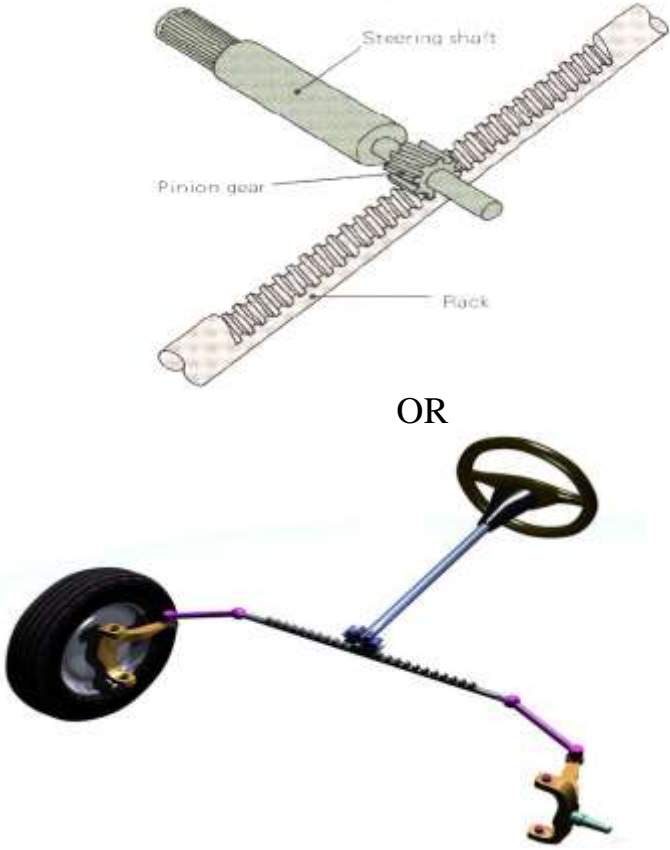
35)

Reasons	Remedy
Loose or broken water pump pulley belt	Adjust / replace
Low level of coolant	Check coolant level and add as necessary
Faulty thermostat	Replace
Faulty water pump	Replace
Dirty or bend radiator fins	Clean or remedy
Broken water pump fan	Replace
Coolant leakage on cooling system	Repair
Defective cooling fan motor	Check and Replace
Plugged radiator and defective rubber hoses	Check and Replace radiator
Faulty radiator cap	Check the upper hole on the radiator cap and also check rubber sealing and replace it if found defective
Faulty thermostatic switch	Replace switch
Improper ignition timing	Adjust

Any six from each

**1
1
1
1
1
1**

6

36)	 <p style="text-align: center;">OR</p> <p style="text-align: right;">Diagram-6mark</p>	6	
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>	1 1 1 1 1 1	6

*****END*****