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CCE RR

NSQF LEVEL-2

MODEL ANSWERS

Date : 28. 06. 2018]   CODE NO. : **88-EK**

Subject : **Automobile**
(Regular Repeater)

[**Max. Marks : 60**

Qn. Nos.	Value Points		Total
I.	*Four* alternatives are given for each of the following questions / incomplete statements. Choose the correct alternative and write the complete answer along with its question number and alphabet :　　　10 × 1 = 10		
1.	Rolling resistance depends upon (A)　slope of the road (B)　materials of the road surface (C)　speed of the vehicle (D)　constant speed **Ans :** B — materials of the road surface.		1
2.	An example of semi-solid lubricant is (A)　mica　　　　　　(B)　oil in water (C)　soap stone　　　　(D)　aluminium paste **Ans :** D — aluminium paste		1

Qn. Nos.	Value Points		Total
3.	Stub axle without rigid axle beam type is widely used on (A) cars (B) trucks (C) heavy commercial vehicles (D) buses **Ans :** A — cars.		1
4.	Which is *not* the part of cooling system ? (A) Bonnet (B) Radiator (C) Thermostat (D) Water pump **Ans :** A — Bonnet.		1
5.	The tool used to precisely apply a specific torque to a bolt and nut is (A) tappet wrench (B) wheel wrench (C) torque wrench (D) flywheel puller **Ans :** C — torque wrench.		1
6.	Air filter is cleaned by (A) chemicals (B) air blower (C) oil (D) water **Ans :** B — air blower.		1
7.	The machine used in automobile service centre to prevent tyre vibration and bounce is (A) air compressor (B) two-post lift (C) pneumatic wrenches (D) wheel balancer **Ans :** D — wheel balancer.		1
8.	The part of the vehicle cleaned by newspaper is (A) doors (B) axles (C) windows (D) breaks **Ans :** D — windows.		1
9.	Vehicle oil should be changed after the vehicle travels the distance of (A) minimum 4,000 km — maximum 15,000 km (B) minimum 15,000 km — maximum 30,000 km (C) minimum 25,000 km — maximum 30,000 km (D) minimum 30,000 km — maximum 35,000 km **Ans :** A — minimum 4,000 km — maximum 15,000 km.		1

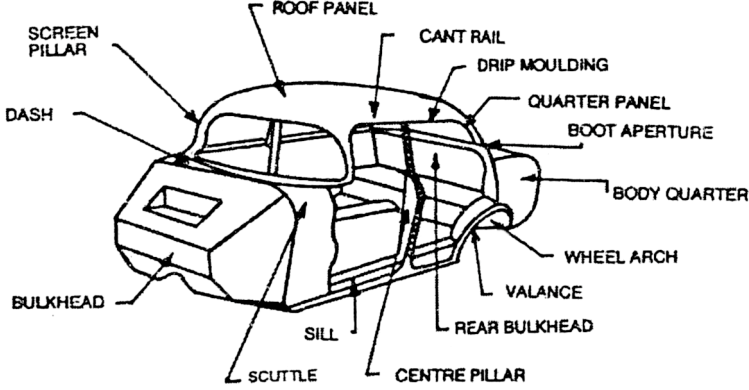| Qn. Nos.	Value Points		Total
10.	'File' is a/an (A) electrical tool (B) hand tool (C) special tool (D) measuring tool **Ans :** B — hand tool.		1
II.	Fill in the blanks with suitable answer : 4 × 1 = 4		
11.	Multimeter is used to measure .... **Ans :** Current and Voltage.		1
12.	Air compressor is used to increase the pressure of air by reducing .... **Ans :** Volume.		1
13.	The full form of A.B.S. is .... **Ans :** Antilock braking system.		1
14.	Clogged filter .... fuel pressure. **Ans :** Reduces.		1
III.	Automobile service tools are given in **Column-A** and their uses are given in **Column-B**. Match them : 4 × 1 = 4		
15.	Match the following : **Column-A** **Column-B** i) Drill bits a) cut metals ii) Hand hacksaw b) opening the wheels of vehicle iii) Pliers c) for softer blows iv) Wheel wrenches d) sharpening tools e) hold small objects f) cut sheet metals. g) create cylindrical holes. **Ans :** i) g) — create cylindrical holes.		1
	ii) a) — cut metals.		1
	iii) e) — hold small objects.		1
	iv) b) — opening the wheels of vehicle.		1

Qn. Nos.	Value Points		Total
IV.	Answer the following questions : 6 × 1 = 6		
16.	List the two common problems of the suspension system.		
	Ans :		
	i) Shocks and struts	½	
	ii) Ball joints.	½	1
17.	List the measuring tools used in automobile workshop.		
	Ans :		
	i) Scale rule		
	ii) Inside caliper		
	iii) Outside caliper		
	iv) Micrometer		
	v) Vernier caliper		
	vi) Depth gauge. (any *two*)	½	
	vii) Feeler gauge	½	1
18.	Why is engine oil changing important ?		
	Ans :		
	i) To avoid the wear & tear of engine		
	ii) To increase the efficiency of the engine		
	iii) To avoid serious damage to the engine	½	
	iv) For smooth running of a vehicle. (any *two*)	½	1
19.	Name the company that installed ABS on production of cars in 1978 for the first time.		
	Ans :		
	Mercedes Benz.		1
20.	What is the use of blind spot detection ?		
	Ans :		
	Preventing the collision.		1

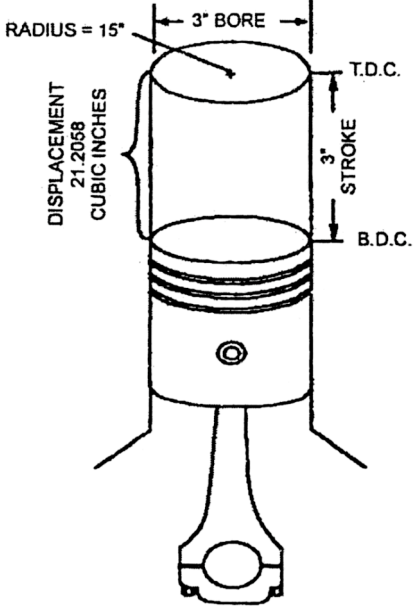| Qn. Nos.	Value Points		Total
21.	How are the sensitive air bag systems helpful to passengers ? **Ans :** Sense the difference in size and weight of the occupants and deploys the air bags accordingly.		1
V.	Answer the following questions : 6 × 2 = 12		
22.	Explain gravity fuel supply system. **Ans :** *Gravity system* : In this system the fuel tank is mounted at the highest position from where the fuel drops into the carburetor float chamber by gravity.		2
	OR		
	Explain pressure fuel supply system. **Ans :** *Pressure system* : In this system a hermitically sealed fuel tank is used. Pressure is created in the tank by means of engine exhaust or a separate air pump.		2
23.	List the requirements of steering system. **Ans :** i) it should multiply the turning effort applied on the steering wheel by the driver. ii) it should be to certain degree irreversible so that the shocks of the road surface encountered by the wheels are not transmitted to the driver's hands. iii) the mechanism should have self rightening effect so that when the driver releases the steering wheel after negotiating the run. (any *two*)	1 + 1	2
	OR		

Qn. Nos.	Value Points		Total
	List the requirements of good braking system.		
	Ans :		
	i) should stop the vehicle in shortest possible distance and time.		
	ii) work equally well on fair and bad roads	½	
	iii) pedal effort applied should not be more	½	
	iv) should work equally well in all weathers	½	
	v) should have very few wearing parts	½	
	vi) should require little maintenance. (any *four*)		2
24.	List the materials and tools required for changing of the oil.		
	Ans :		
	i) Engine oil		
	ii) New oil filter		
	iii) Safety glasses and rubber gloves		
	iv) Plastic container and funnel		
	v) Car jack and jack stands	½	
	vi) Drain plug socket wrench	½	
	vii) Paper towels and a rag	½	
	viii) Oil filter wrench (any *four*)	½	2
25.	List the steps for changing of air filter.		
	Ans :		
	i) Obtain the correct replacement filter		
	ii) Secure the vehicle		
	iii) Open the bonnet		
	iv) Locate the air filter		
	v) Remove the air filter cover		
	vi) Take out the air filter		
	vii) Clean the air filter housing	½	
	viii) Replace the filter	½	
	½		
	ix) Replace the cover. (any *four*)	½	2

Qn. Nos.	Value Points		Total
26.	Write a short note on coolant. **Ans :** Coolant is a fluid which flows through a device to prevent its overheating. Transferring the heat produced by the device to other devices that use or dissipate it.		2
27.	Explain 'anticipate guest needs' with respect to customer sales care. **Ans :** Nothing surprises your customer more than an employee going the extra mile to help them. Always look for ways to serve your customer in more ways than they expect. In doing so it helps them to know that you care and it will leave them with the feel good factor that we are searching for.		2
VI.	Answer the following questions : 4 × 3 = 12		
28.	State Ohm's law and write its formula. Write the meaning of each term in the formula. **Ans :** The flow of current in a circuit is directly proportional to the applied voltage and inversely proportional to the resistance. $E = I \times R$ Voltage = Amps × Resistance OR $I = \dfrac{E}{R}$ Definition OR Formula $R = \dfrac{E}{I}$ Any two meanings of terms ½ + ½ R = Resistance E = Voltage I = Current	1 1 1	3

Qn. Nos.	Value Points		Total
29.	Explain the following technical terms : a) Piston displacement b) Engine capacity. **Ans :** a) *Piston displacement* : This is the volume swept by the piston in moving from T.D.C to B.D.C. This is also called swept volume.	1½	
	b) *Engine capacity* : This is the total piston displacement or the swept volume of all the cylinders.	1½	3
	OR		
	Define the following : a) Physical stability b) Chemical stability c) Resistance against corrosion. **Ans :** a) *Physical stability* : The lubricating oil must be stable physically at the lowest and the highest temperatures encountered in practice.	1	
	b) *Chemical stability* : At higher temperature the oil should remain chemically stable. There should not be tendency for oxide formation.	1	
	c) Resistance to corrosion : The oil should not have any tendency to corrode the pipelines, crank case and other engine parts.	1	3

Qn. Nos.	Value Points		Total
30.	Draw the diagram of Wankel rotary engine and label the parts. **Ans :** Diagram of Wankel rotary engine.		
	Sketch	2	
	Parts ½ + ½	1	3
31.	Write any six duties of an automobile sales person. **Ans :** i) Sells/leases and delivers a minimum number of vehicles per month. ii) Approaches, greets and offers assistance or direction to any customer who enters the dealership. iii) Assist customers in selecting a vehicle. iv) Explains fully the product performance, application and benefits.		

Qn. Nos.	Value Points		Total
	v) Offers test drive to all prospects.		
	vi) Attends product and sales training courses.		
	vii) Schedules first service appointment.		
	viii) Attends sales meetings.		
	ix) Delivers vehicle to customer		
	x) Follows up on all post-delivery items. (any *six*)	6 × ½	3
VII.	Answer the following questions : 3 × 4 = 12		
32.	Draw the diagram of a car body and label the parts. **Ans :** Diagram of car body.		
	Sketch	3	
	Parts ½ + ½	1	4
	OR		

Qn. Nos.	Value Points		Total
	Draw the diagram of British system engine (piston) displacement and label the parts. **Ans :**		
	Diagram of British system engine (Piston) Displacement.		
	Sketch	3	
	Parts ½ + ½	1	4
33.	Write the advantages of automobile service special tools. **Ans :** i) During assembling and disassembling special tools are used. ii) Used for special purpose. iii) These tools makes work easy and save time. iv) Life of parts increases v) Damage is decreased. vi) Designed for special work. (any *four*)	4 × 1	4
	OR		

Qn. Nos.	Value Points		Total
	Write the differences between inside calipers and outside calipers. **Ans :** i) outside calipers are used for measuring outside dimensions. ii) inside calipers are used for measuring inside dimensions. iii) outside calipers are mainly used for measuring diameter of shafts. iv) inside calipers are used for measuring diameter of hole or any other inside dimensions. v) the tips of the caliper are adjusted to sit across the points. (any four)	4 × 1	4
34.	List the proper steps to be followed while washing vehicle manually. **Ans :** i) Shady spot should be chosen. ii) All the doors and windows should be closed. iii) Take a bucket of water and pour one spoon of car soap. iv) Remove the dirt from the car. v) Apply soap water with sponge. vi) Spray the excess soap water. vii) Clean the side walls with plastic brush. viii) Clean the car with water pipe properly so that there is no soap or dirt spot. ix) Take an old towel and dry the car thoroughly. x) For cleaning of windows use pieces of newspaper. (any eight)	8 × ½	4