

# CBSE | DEPARTMENT OF SKILL EDUCATION

## AUTOMOTIVE (SUBJECT CODE: 404)

### MARKING SCHEME FOR CLASS X (SESSION 2022-2023)

Max. Time: 2 Hours

Max. Marks: 50

#### General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **21 questions** in two sections – Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
  - i. This section has 05 questions.
  - ii. There is no negative marking.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
  - i. This section contains 16 questions.
  - ii. A candidate has to do 10 questions.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.

### SECTION A: OBJECTIVE TYPE QUESTIONS

Q. No.	QUESTION	Source Material (NCERT/PSSCIVE / CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
<b>Q. 1</b>	<b>Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)</b>				
i.	the stressful event	NCERT	2	41	1
ii.	Body and mind	CBSE	2	18	1
iii.	iOS	CBSE	3	22	1
iv.	Wall paper	CBSE	3	23	1
v.	Social	CBSE	4	46	1
vi.	Shahnaz Hussain	CBSE	4	47	1
<b>Q. 2</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>				
i.	Bus	CBSE	1	3	1
ii.	Electric Spot	CBSE	1	7	1
iii.	Engine torque can be defined as the force of rotation acting about the crankshaft axis at any given instant of time.	CBSE	1	13	1
iv.	Mono Garde	CBSE	1	17	1
v.	35	CBSE	1	19	1
vi.	Mass of the vehicle	CBSE	1	27	1

<b>Q. 3</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>				
i.	Two Post Lift	CBSE	2	77	1
ii.	Flywheel Puller	CBSE	2	76	1
iii.	Balancing	CBSE	2	78	1
iv.	Industrial	CBSE	2	78	1
v.	Torque Wrench	CBSE	2	75	1
vi.	On, off	CBSE	3	86	1
<b>Q. 4</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>				
i.	Plastic Brush	CBSE	3	83	1
ii.	on the Top	CBSE	3	91	1
iii.	Fuel	CBSE	3	94	1
iv.	An ideal coolant should have 1. High thermal capacity, 2. low viscosity, 3. low cost, 4. non-toxic, and 5. Chemically inert, neither, causing nor promoting corrosion of the cooling system. <b>(any two)</b>	CBSE	3	96	1
v.	Customer service executive	CBSE	4	99	1
vi.	Good sale for the outlet	CBSE	4	101	1
<b>Q. 5</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>				
i.	Customer service executive	CBSE	4	99	1
ii.	Information expert	CBSE	4	99	1
iii.	-40°C to 130°C	CBSE	5	105	1
iv.	Society of Automotive Engineers	CBSE	5	107	1
v.	Development	CBSE	5	104	1
vi.	5-7 years	CBSE	5	105	1

## **SECTION B: SUBJECTIVE TYPE QUESTIONS**

Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
<b>Answer any 3 out of the given 5 questions on Employability Skills in 20 – 30 words each (2 x 3 = 6 marks)</b>					
Q. 6	Self-motivation can be defined as any individual have an inner urge to do something, achieve their goals without any external pressure/lure for award or appreciation. It is a life skill and must be necessarily developed.	CBSE	2	20	2
Q. 7	Stress management can help someone in following ways: <b>(any two)</b> i. He/she can have a joyful life ii. He/she can focus and complete tasks on time iii. He/she can be a happy person as he/she is stress free. iv. He/ she can be more energetic and spend quality time with your friends and family.	NCERT		41	2

<b>Q. 8</b>	A computer can get infected with virus in any of the following ways: <b>(any two)</b> a. Through infected files b. Through infected pen drives c. Through infected CD-ROMs/DVD-ROMs d. Through infected file attachment of e-mails	CBSE	3	36	2
<b>Q. 9</b>	Entrepreneurship has some positive impact on society as given below: <b>(any two)</b> i. Highlights economic Growth ii. Raises Creativity iii. Encourages Innovation and Efficiency iv. Generates Jobs and Employment Opportunities v. Explains the problems of the society vi. Encourages welfare of the society	CBSE		45	2
<b>Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)</b>					
<b>Q. 10</b>	Agricultural Entrepreneurship- It can be described as entrepreneurship that is primarily concerned with the sale and production of agricultural inputs and products. Farmers have profited the most from the increase in agricultural entrepreneurship because it has resulted in low-cost advancements in farming procedures.	CBSE		46	2
<b>Q. 11</b>	In automatic transmission, the different speed ratios between the engine crankshaft and the wheels are achieved automatically. The driver does not need to shift gears, such transmission make use of a fluid coupling or torque converter, as well as mechanical, hydraulic or electrical controls. Such transmission is mainly used on luxury cars, or heavy vehicles which require frequent change of gears in the city and crowded highway driving.	CBSE	1	28	2
<b>Q. 12</b>	Functions of the front axle of RWD automobile: <b>(any two)</b> i. It carries the weight of the front of the vehicle. ii. It carries stub axle king pin steering arm by which the vehicle can be steered. iii. It works as cushion through its spring for a comfortable ride. iv. It controls the ride through shock absorber fitted on it. v. It carries the brake system with which the moving vehicle can be stopped.	CBSE	1	34	2

Q. 13	<p>(Any two) advantages of using special tools in automobile workshops.</p> <ol style="list-style-type: none"> <li>Use of special tools makes work easy</li> <li>With the use of special tools, time is saved</li> <li>With the use of special tools, the life of parts increases</li> <li>With the use of special tools, damage is reduced</li> </ol>	CBSE	2	75	2
Q. 14	<p>Different precautions to be followed while washing a car. (Any two)</p> <ol style="list-style-type: none"> <li>Wash one side at a time to keep the soap away from drying on your car's paint.</li> <li>Wet and wring out the cleaning cloth before wiping out the car, it will absorb water better.</li> <li>Do not use detergent, dish soap. Use car wash soap only.</li> <li>Wear old clothes while washing the car.</li> </ol>	CBSE	3	84	2
Q. 15	<p>Importance of the term “Anticipate Guest Needs” :</p> <p>Understand the need of the customer and always look for methods to exceed your customer's expectations. This allows them to know that you care and gives them the "Feel Good Factor" that they were looking for. Nothing delights your consumer more than an employee that goes above and beyond to assist them.</p>	CBSE	4	100	2
<b>Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)</b>					
Q. 16	<p>There is a lot of research going on in the area of alternative fuels. Some of them are as given below: (Any two)</p> <ol style="list-style-type: none"> <li>Development of MPFI/ CRDi system which gives more mileage per liter of fuel and lesser pollution</li> <li>A combination of electrical and petrol energy have been used in cars called 'hybrid' cars.</li> <li>Solar energy based cars have been designed these days and these cars can go up to 80 km in a day.</li> <li>Some cars have been designed to use electrical energy.</li> </ol>	CBSE	5	104	4

Q. 17	<p><b>Discharging action:</b> When a battery is being discharged, current flow from the negative pole to the positive pole. The hydrogen ions of electrolyte (diluted sulphuric acid) move to the positive plate and combine with oxygen to form water. The sulphate ions combine with lead to form lead sulphate. When the battery is fully discharged the specific gravity of electrolyte reaches to 1.160.</p> <p><b>Charging action:</b> When a battery is being charged, the current flows from the positive pole to the negative pole. The oxygen ions move to the positive plate where they displace the sulphate ions simultaneously move back from the negative plates into the electrolyte. This turns the negative plates back into lead.</p>	CBSE	1	58	4
Q. 18	<p><b>a. Universal clutch holding tool:</b> This special is used for holding the compressed clutch when removing or installing the centre nut. This tool is mainly used for multi plate clutch of two wheelers.</p> <p><b>b. Flywheel puller:</b> A flywheel puller is the only correct and safe way to remove a flywheel from engine of two wheeled vehicles. If any technician don't used the recommended tool, there are chances of damaging the flywheel.</p> <p><b>c. Pneumatic wrench:</b> This type of wrenches are used for accuracy and easy operations in automobile workshops. These wrenches are used where accurate torque is required on a nut and bolt. These wrenches are operated using compressed air.</p> <p><b>d. Two post lift:</b> It is used for lifting a four wheeler and to perform the work under carriage of lifted vehicle. It consists of two columns and screws are fitted in each column.</p>	CBSE	2	75- 76	4
Q. 19	<p><b>Importance of changing of engine coolant:</b></p> <p>It is observed that most of the car owners never change their engine coolant or even know that they should. Engine coolant is also known as antifreeze or radiator fluid. Engine coolant helps to keep car's engine from overheating. If we don't change the coolant car will overheat quickly and cause huge damage to the engine.</p>	CBSE	3	96	4

	To keep the radiator free of corrosion and performing well keeping your car engine cool; coolant should be changed every two years or as recommended by the manufacturer.				
<b>Q. 20</b>	<p>Alfred stated important duties of sales person in automobile dealerships /service centre. <b>(Any Four)</b></p> <ol style="list-style-type: none"> <li>i. Approaches, greets and offers assistance or direction to any customer who enters the dealership.</li> <li>ii. Assists customers in selecting a vehicle by asking questions and listening carefully to their responses.</li> <li>iii. Explains fully the product performance, application and benefits.</li> <li>iv. Describes all optional equipment available for customer purchase.</li> <li>v. Offers test drives to all prospects.</li> <li>vi. Follows dealership procedure to obtain proper identification from customer prior to test drive.</li> <li>vii. Utilizes dealership sales control and follow-up system.</li> <li>viii. Exhibits high level of commitment to customer satisfaction.</li> <li>ix. Knows and understands the central, state and local laws which govern retail automobile sales.</li> <li>x. Establishes personal income goals that are consistent with dealership standards of productivity and devises a strategy to meets those goals.</li> <li>xi. Attends product and sales training courses as requested by sales manager.</li> <li>xii. Keeps abreast of new products, features, accessories, etc., and their benefits to customers.</li> <li>xiii. Knows and understands equity and values, and is able to explain depreciation to the customer.</li> <li>xiv. Sells/leases and delivers a minimum number of vehicle per month (target given by shop owner).</li> </ol>	CBSE	4	100	<b>4</b>

<b>Q. 21</b>	<p>Importance of new innovations in cars safety technology. <b>(Any four features)</b></p> <p>Today's automobiles perfectly combines comfort, performance, and safety, providing car consumers with more amenities and aesthetics than they've ever had before. Cutting-edge safety technology has also advanced by leaps and bounds in recent years. Technology continues to develop the best safety features to safeguard drivers, passengers, and other motorists and pedestrians. Some important innovations in cars safety technology are as follows:</p> <ul style="list-style-type: none"> <li>• Night vision assist</li> <li>• Sensitive air bag systems</li> <li>• Rollover prevention</li> <li>• Blind-spot detection</li> <li>• Tyre pressure monitoring systems</li> </ul>	CBSE	5	111	
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