

CBSE | DEPARTMENT OF SKILL EDUCATION

AUTOMOTIVE (SUBJECT CODE-404)

MARKING SCHEME FOR CLASS IX (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
Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)				
i.	Simple words	NCERT	1	36	1
ii.	Personal hygiene and grooming	NCERT	2	56	1
iii.	He learns from the feedback and makes his project work better.	NCERT	2	60	1
iv.	“flipped classroom”	CBSE	3	25	1
v.	Micro	CBSE	4	74	1
vi.	Non- renewable energy	CBSE	5	87	1
Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	Wheel	CBSE	1	3	1
ii.	Slovenia	CBSE	1	2	1
iii.	Spoked	CBSE	1	2	1
iv.	78%	CBSE	2	19	1
v.	Road roller	CBSE	2	33	1
vi.	Commercial vehicle	CBSE	2	41	1

Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	fuel injector	CBSE	3	56	1
ii.	SI engine	CBSE	3	63	1
iii.	Pressure Plate	CBSE	3	66	1
iv.	I-section	CBSE	3	70	1
v.	Compressed air is used for suspension system.	CBSE	3	75	1
vi.	Tyre	CBSE	3	77	1
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	Steering geometry	CBSE	3	79	1
ii.	Ignition	CBSE	3	81	1
iii.	Laminated	CBSE	3	85	1
iv.	Air bag	CBSE	3	85	1
v.	one year	CBSE	4	112	1
vi.	Restriction ends	CBSE	4	105	1
Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	Runway	CBSE	4	100	1
ii.	Three	CBSE	4	95	1
iii.	1991	CBSE	5	120	1
iv.	1992	CBSE	5	120	1
v.	Un-Leaded Petrol	CBSE	5	120	1
vi.	Delhi	CBSE	5	122	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
Answer any 3 out of the given 5 questions on Employability Skills in 20 – 30 words each (2 x 3 = 6 marks)					
Q. 6	i. Non-verbal communication makes our message stronger. ii. Using the right gestures while speaking makes our message more effective. iii. Non-verbal communication helps us to understand our audience's reaction. iv. Non-verbal communication helps us to adjust our behaviour or communication as per our audience's reaction. (Any 2) (1 marks each)	NCERT	1	12	2
Q. 7	Below mentioned factors affect our self-confidence: i. When we think we cannot do a particular work. ii. When we keep thinking of our past mistakes and feel bad about it, instead of learning from them. iii. When we expect to be successful at	NCERT	2	68	2

	<p>the first attempt itself and do not try again.</p> <p>iv. When we are surrounded by people who have a negative attitude, which is reflected in their speech. (Any 2) (1 marks each)</p>				
Q. 8	<p>Some of the advantages of using email are:</p> <p>i. You don't have to pay anything extra for sending or receiving email. You just pay for the internet connection.</p> <p>ii. You can send bulk mails.</p> <p>iii. The receiver may not be online when you send the email.</p> <p>iv. You can send documents, presentations, images, videos, etc. as an attachment to email.</p> <p>v. When you send an email, it reaches, the receiver at any part of the world in few seconds. (Any 2) (1 marks each)</p>	CBSE	3	29	2
Q. 9	<p>Challenges of Entrepreneurship Development³</p> <p>i. Lack of awareness about entrepreneurship schemes</p> <p>ii. Strict regulatory framework</p> <p>iii. Low margin market linkages</p> <p>iv. Lack of continued motivation</p> <p>v. Lack of formal education</p> <p>vi. Low technical knowledge</p> <p>vii. Absence of managerial skills</p> <p>viii. Inadequate infrastructure and resources</p> <p>ix. Lack of finance availability (Any 4) (1/2 marks each)</p>	CBSE	4	79	2
Q. 10	<p>The man-made disruption that causes ecological imbalance are as follows: Deforestation Degradation of Land and Soil Erosion: Overexploitation of Resources Industrial and Atmospheric Pollution (1/2 marks each)</p>	CBSE	5	85	2
Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)					
Q. 11	<p>The low resistance to motion (compared to dragging) is explained as follows:</p> <p>i. the normal force at the sliding interface is the same.</p> <p>ii. the sliding distance is reduced for a given distance of travel.</p> <p>iii. the coefficient of friction at the interface is usually lower.</p>	CBSE	1	3	2

Q. 12	The combine harvester, or simply combine, is a machine that harvests grain crops. The name derives from the fact that it combines three separate operations, reaping, threshing, and winnowing, into a single process.	CBSE	2	29	2
Q. 13	Crank and crankshaft are steel forged. Both of these are held together by means of a key. Crankshaft is supported in main bearings and has a heavy wheel, called flywheel, to even out the fluctuations of torque. The crankshaft is the backbone of the engine.	CBSE	3	50	2
Q. 14	Different components of Automobile Air-conditioning system: i. Compressor ii. Magnetic Clutch iii. Condenser iv. Receiver-driver (or dehydrator) v. Expansion valve vi. Evaporator vii. Suction throttling valve	CBSE	3	83	2
Q. 15	Hurdles in Road Safety (Any Four) i. Negligence of Civilians. ii. Pathetic Condition of roads. iii. Unsafe Vehicle Design. iv. Under implementation of Road Safety Standards. v. Lack of Emergency Services.	CBSE	4	88	2
Q. 16	Some ways to control pollution is to: i. Keep car one day off in a week ii. Pool the car for going to office iii. Use bicycle for short distances iv. Keep your vehicle properly maintained v. Delhi metro is best example of controlling pollution and providing comfort to the public.	CBSE	5	123	2

Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)

Q. 17	Passanger Vehicle	Commercial Vehicle	CBSE	2	24,26	4
	Passenger vehicle refers to a machine that can carry a person or a group of persons. There are several types of passenger vehicles like	A Commercial Vehicle is a type of motor vehicle that may be used for transporting of goods as well People. These vehicles effect the trade,				

	cars/jeeps/tempo etc.	commerce and industry of a country. Vehicles falling under this category are mainly buses & trucks.				
Q. 18	<p>Requirements of a Clutch:</p> <ol style="list-style-type: none"> The clutch should be able to transmit maximum torque of the engine. The clutch should engage gradually to avoid sudden jerks. The clutch should be able to dissipate large amount of heat which is generated during the clutch operation due to friction. The clutch should be dynamically balanced. The clutch should have suitable mechanism to damp vibrations to eliminate noise produced during the power transmission. The clutch size should be as small as possible so that it will occupy minimum space. The clutch should have free pedal play in order to reduce effective load on the carbon thrust bearing and its wear. The clutch should be easy to operate requiring as little exertion as possible on the part of the driver. The driven member of the clutch should be made as light as possible so that it will not continue to rotate for any length of time after the clutch has been disengaged. 		CBSE	3	66	4
Q. 19	<p>Functions of steering:</p> <ol style="list-style-type: none"> It helps in swinging the wheels to the left or right. It helps in turning the vehicle according to the will of the driver. It provides directional stability. It helps in controlling wear and tear of tyres. It helps in achieving the self-straightening effect. It converts the rotary movement of the steering wheel into an angular 		CBSE	3	72	4

	<p>turn of the front wheels.</p> <p>vii. It multiplies the effort of the driver by leverage in order to make it fairly easy to turn the wheels.</p> <p>viii. It absorbs a major part of the road shocks thereby preventing them to get transmitted to the hands of the driver.</p>				
Q. 20	<p>i. An application for registration of a Motor Vehicle shall be made in Form 20 to the Registering Authority within a period of 7 days from the date of delivery of such vehicle excluding the period of journey and shall be accompanied by Sales certificate in Form 21.</p> <p>ii. Road worthiness certificate in Form 22 from the manufacturers (Form 22A from the Body builder).</p> <p>iii. Valid Insurance Certificate.</p> <p>iv. Proof of Address (Ration Card, Electricity Bill).</p> <p>v. Design approval copy of STA in case Trailer or Semi-Trailer.</p> <p>vi. Original Sales Certificate from the concerned Authorities in Form 21 in the case of Ex-Army Vehicle.</p> <p>vii. Pollution Under control Certificate.</p> <p>viii. Customs Clearance Certificate in the case of Imported Vehicles.</p> <p>ix. Appropriate Fee as specified in Rule 81 of CMV Rule</p>	CBSE	4	109	4
Q. 21	<p>a) CNG burns most efficiently and completely.</p> <p>b) During combustion, some amount of petrol and diesel remains unburnt there by producing harmful emissions.</p> <p>c) Moreover, CNG is economical than petrol or diesel.</p> <p>d) CNG can't be siphoned off by thieves.</p> <p>e) CNG can't be adulterated like petrol or diesel.</p> <p>f) CNG handling technology has matured enough.</p>	CBSE	5	116	4