

Marking Scheme
Strictly Confidential
(For Internal and Restricted use only)
Senior Secondary School Examination, 2026 (XIIth)
SUBJECT NAME : Automotive (Q.P. CODE : 804/328)

General Instructions: -




1	The CBSE has decided to introduce On Screen Marking (OSM) for the evaluation of Class XII answer Book with the 2026 Examination.
2	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.
3	“Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, evaluation done and several other aspects. Its leakage to public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in Newspaper/Website, etc. may invite action under various rules of the Board and IPC.”
4	Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one’s own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In Class-XII, while evaluating two competency-based questions, please try to understand given answer and even if reply is not from marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.
5	The Marking scheme carries only suggested value points for the answers. These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.
6	The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
7	Evaluators will mark (✓) wherever answer is correct. For wrong answer CROSS ‘X’ be marked. Evaluators will not put right (✓) while evaluating which gives an impression that answer is correct and no marks are awarded. This is most common mistake which evaluators are committing.
8	If a question has parts, please award marks on the right-hand side for each part in the OSM Portal. Marks awarded for different parts of the question will be totaled up by the OSM System.
9	If a question does not have any parts, marks must be awarded in the left-hand margin in the OSM Portal. This may also be followed strictly.

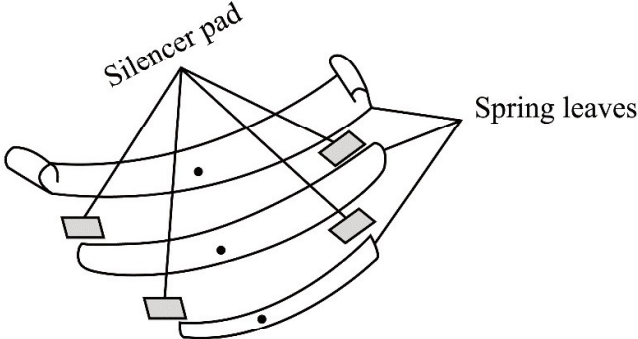
10	If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out with a note “ Extra Question ”.
11	No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
12	A full scale of marks _____ (example 0 to 80/70/60/50/40/30 marks as given in Question Paper) has to be used. Please do not hesitate to award full marks if the answer deserves it.
13	Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines). This is in view of the reduced syllabus and number of questions in question paper.
14	Ensure that you do not make the following common types of errors committed by the Examiner in the past :- <ul style="list-style-type: none"> • Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.) • Half or a part of answer marked correct and the rest as wrong, but no marks awarded.
15	While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0) Marks.
16	The Examiners should acquaint themselves with the guidelines given in the “ Guidelines for Spot Evaluation ” before starting the actual evaluation.
17	The candidates are entitled to obtain photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.

MARKING SCHEME
AUTOMOTIVE (Subject Code-804)
(PAPER CODE: 328) (P3280804)

Q.No.	EXPECTED OUTCOMES/VALUE POINTS	Marks
	SECTION – A	
1.	<p>Answer any 4 questions out of given 6 questions.</p> <p>(i) A ‘Sentence’ is a group of words that communicates a complete meaning thought or action (unit 1, Page No : 9)</p> <p>(ii) (1) Help her to build confidence (2) Talk to her (3) Engage her in hobbies (any two) or any relevant (unit 2, Page No : 38)</p> <p>(iii) (b) Realistic (unit 2, Page No : 30)</p> <p>(iv) (a) Ctrl+X (unit 3, Page No : 53)</p> <p>(v) (d) French (unit 4, Page No : 79)</p> <p>(vi) Areca palm and Rubber plant and or any other relevant (unit 5, Page No : 112)</p>	<p>4x1=4</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
2.	<p>(i) (c) Blacksmith’s foundry bellows</p> <p>(ii) CO₂ and CO</p> <p>(iii) (d) Microcontroller</p> <p>(iv) (b) Rear of air control valve</p> <p>(v) Gap gauge</p> <p>(vi) (a) pH-neutral shampoo</p> <p>(vii) (d) Aircompressor</p>	<p>5x1=5</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
3.	<p>(i) (c) Camber Angle</p> <p>(ii) (d) Positive Castor</p> <p>(iii) Efficient</p> <p>(iv) (b) Low speed or tight turn</p> <p>(v) Hydraulic pressure</p> <p>(vi) (a) Upper end</p> <p>(vii) (d) Combined angle</p>	<p>6x1=6</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
4.	<p>(i) (c) Front axle beam</p> <p>(ii) (d) Linkage system</p> <p>(iii) Springs, shock absorber</p> <p>(iv) (a) First legal heir</p> <p>(v) Semi-elliptical leaf spring</p> <p>(vi) (b) Suspension spring</p>	<p>5x1=5</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
5.	<p>(i) (c) Help in turning the vehicle</p> <p>(ii) (a) Cross or spider</p> <p>(iii) (d) Same plane</p> <p>(iv) Sulfur Oxide (SO_x)</p> <p>(v) Three quarter floating type</p> <p>(vi) (b) An inline</p>	<p>5x1=5</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>

6.	(i) Fleming's right han rule (ii) (b) Armature winding (iii) (d) Lowest (iv) (a) Electronic control (v) (c) Air temperature (vi) Valid certificate of fitness	5x1=5 1 1 1 1 1 1
	SECTION – B (Subjective Type questions)	
	Answer any 3 out of given 5 questions.	3x2=6
7	M = Months, I = I, N = Names T = Titles, S = Starting letter of sentences (unit-1, Page No. : 9)	2
8.	(i) Exercises help improve blood circulation and relax the body. (ii) Taking a walk helps one to get a lot of fresh air, which help in becoming more active. (unit-2, Page No. : 25)	1+1=2
9.	Work sheet (i) A single spreadsheet page (grid of cells) (ii) Part of workbook Work book (i) Collection of more worksheets (ii) The main file that contains all worksheets. (unit-3, Page No. : 42)	2
10.	Entrepreneurship development refers to the process of enhancing entrepreneurial skills and knowledge through structured training and institution building programmes. Characteristics of Entrepreneurship are : (i) It deals with optimisation in utilisation of resources (ii) It is the ability of an enterprise and an entrepreneur to take risks. (unit-4, Page No. : 78, 80)	1+½+½=2
11.	Solid waste management system (unit-5, Page No.- 117 Includes Collection Segregation Transportation Processing and Disposal of waste	2
12.	Three service equipment's name. (i) Left and Jacks (ii) Wheel Balancer (iii) Air compressor	2
13.	Need of power steering in Automobile vehicle : The power steering system is the system employed in automobiles to reduce the efforts required to operate the steering wheel. This feature adds to the comfort while driving, as less effort is required to turn steering by the driver.	2
14.	(i) They control their own oscillation through interleaf friction. (ii) They have sufficient durability for heavy duty use.	2
15.	(i) To support the weight of the vehicle (ii) To drive the rear wheels via final drive (iii) To rotate the power flow at the final drive by 90° on either side for driving the wheels	2

16.	No person shall drive a motor vehicle in any public place unless s/he holds an effective driving licence to drive the vehicle.	2																		
17.	(i) The rear drive axles of front engine, rear wheel drive axles. (ii) The transaxle of front engine, front wheel drive vehicles or rear engines. (iii) The front drive axle and rear drive axle of four wheel drive vehicles. (iv) The transfer case of some four wheel drive vehicles.	3																		
18.	Principle of voltage Regulator : Inserting a resistance in the shunt field, whenever the voltage exceeds certain value and removing the resistance from the field whenever the voltage falls below the predetermined value. The principle is known as 'TIRRL' principle.	3																		
19.	Cautionary signs : <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Right Hand curve </div> <div style="text-align: center;">  Side road Right </div> </div> <div style="text-align: center; margin-top: 20px;">  Dangerous DIP </div>	3																		
20.	Types of wheel Balancing (i) Static Balancing (ii) Dynamic balancing (i) Static Balancing : Tyre manufactures measure static balance by the use of sensor mounted to the spindle assembly. (ii) Dynamic Balancing : Dynamic balance of tyre/wheel is checked and measured by mounting a tyre on a test wheel, accelerating the assembly to 300 rpm or higher and then measuring the forces of imbalance as the tyre rotates.	4																		
21.	Probable causes and their remedies for the Defect Hard steering : <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th><th>Causes</th><th>Remedies</th></tr> </thead> <tbody> <tr> <td>(i)</td><td>Low tyre pressure</td><td>Inflate tyres to correct pressure</td></tr> <tr> <td>(ii)</td><td>Too tight steering gear</td><td>Adjust the tightness</td></tr> <tr> <td>(iii)</td><td>Incorrect wheel alignment</td><td>Correct the wheel alignment</td></tr> <tr> <td>(iv)</td><td>Broken or bent steering arm or knuckles or suspension arm</td><td>Replace the bent components</td></tr> <tr> <td>(v)</td><td>Insufficient lubricant</td><td>Apply lubricant</td></tr> </tbody> </table>		Causes	Remedies	(i)	Low tyre pressure	Inflate tyres to correct pressure	(ii)	Too tight steering gear	Adjust the tightness	(iii)	Incorrect wheel alignment	Correct the wheel alignment	(iv)	Broken or bent steering arm or knuckles or suspension arm	Replace the bent components	(v)	Insufficient lubricant	Apply lubricant	4
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22.	 <p>Since the riding comfort deteriorates if the interleaf friction is great, measures are taken in actual leaf springs to reduce this friction. Silencer pads are inserted between each of the leaves at their ends to improve the sliding of the leaves against each other. Each of the leaves is also tapered at the ends so that they exert the proper amount of pressure.</p>	4
23.	<p>Worm and wheel type of final drive is used particularly in heavy vehicles, where the final reduction is greater than about 6. This gives a quiet, efficient and very strong drive. The worm can be mounted either below the wheel axis level giving low chassis height or above the wheel axis level, allowing more ground clearance.</p> <p>Disadvantages :</p> <ul style="list-style-type: none"> (i) Cost and weight is higher (ii) Mechanical efficiency is lower (iii) Lubrication of worm is difficult 	4
24.	<p>Purpose of Electronic Control system :</p> <p>The purpose of electronic control system fitted in modern vehicles is to detect air temperature, engine temperature, throttle valve opening angle, amount of air entering air induction system etc.</p> <p>The electronic control system consists of various engine sensors, electronic control unit (ECU), fuel injector assemblies and related wiring.</p> <p>The electronic control unit determines precisely how much fuel needs to be delivered by the injector by monitoring the engine sensors.</p>	4
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