

# CBSE | DEPARTMENT OF SKILL EDUCATION

## AUTOMOTIVE (SUBJECT CODE 804)

### Blue Print of Sample Question Paper for Class XII (Session 2020-2021)

Max. Time: 3 Hours

Max. Marks: 60

#### PART A - EMPLOYABILITY SKILLS (10 MARKS):

| UNIT NO.                        | NAME OF THE UNIT                                   | OBJECTIVE TYPE QUESTIONS | SHORT ANSWER TYPE QUESTIONS | TOTAL QUESTIONS |
|---------------------------------|--|--------------------------|-----------------------------|-----------------|
|                                 |  | 1 MARK EACH              | 2 MARKS EACH                |                 |
| 1                               | Communication Skills-IV                            | 1                        | 1                           | 2               |
| 2                               | Self-Management Skills-IV                          | 2                        | 1                           | 3               |
| 3                               | Information and Communication Technology Skills-IV | 1                        | 1                           | 2               |
| 4                               | Entrepreneurial Skills-IV                          | 1                        | 1                           | 2               |
| 5                               | Green Skills-IV                                    | 1                        | 1                           | 2               |
| TOTAL QUESTIONS                 |  | 6                        | 5                           | 11              |
| NO. OF QUESTIONS TO BE ANSWERED |  | Any 4                    | Any 3                       |                 |
| TOTAL MARKS                     |  | 1 x 4 = 4                | 2 x 3 = 6                   | 10 MARKS        |

#### PART B - SUBJECT SPECIFIC SKILLS (50 MARKS):

| UNIT NO.                        | NAME OF THE UNIT                            | OBJECTIVE TYPE QUESTIONS | SHORT ANS. TYPE QUES.- I | SHORT ANS. TYPE QUES.- II | DESCRIPTIVE/ LONG ANS. TYPE QUESTIONS | TOTAL QUESTIONS |
|---------------------------------|---|--------------------------|--------------------------|---------------------------|---------------------------------------|-----------------|
|                                 |   | 1 MARK EACH              | 2 MARKS EACH             | 3 MARKS EACH              | 4 MARKS EACH                          |                 |
| 1.                              | Measuring & service Equipment               | 6                        | 1                        | 0                         | 1                                     | 8               |
| 2.                              | Steering system                             | 6                        | 1                        | 0                         | 0                                     | 7               |
| 3.                              | Suspension system                           | 6                        | 0                        | 1                         | 1                                     | 8               |
| 4.                              | Transmission and Final Drive system         | 5                        | 1                        | 1                         | 1                                     | 8               |
| 5.                              | Automotive Electrical and electronic system | 5                        | 1                        | 1                         | 1                                     | 8               |
| 6.                              | Motor Vehicle Act and Rules                 | 4                        | 1                        | 0                         | 1                                     | 6               |
| TOTAL QUESTIONS                 |   | 32                       | 5                        | 3                         | 5                                     | 45              |
| NO. OF QUESTIONS TO BE ANSWERED |   | Any 26                   | Any 3                    | Any 2                     | Any 3                                 |                 |
| TOTAL MARKS                     |   | 1 x 26 = 26              | 2 x 3 = 6                | 3 x 2 = 6                 | 4 x 3 = 12                            | 50 MARKS        |

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### Sample Question Paper for Class XII (Session 2020-2021)

Max. Time: 3 Hours

Max. Marks: 60

#### General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **24 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 (6 + 18 =) 24 questions, a candidate has to answer (6 + 11 =) 17 questions in the allotted (maximum) time of 3 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (30 MARKS):**
  - i. This section has 06 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 (30 MARKS):**
  - i. This section contains 18 questions.
  - ii. A candidate has to do 11 questions.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.

## **SECTION A: OBJECTIVE TYPE QUESTIONS**

| <b>Q. 1</b> | <b>Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)</b>  |   |
|-------------|---|---|
| i.          | Write several benefits of being an active listener.   | 1 |
| ii.         | Define motivation.  | 1 |
| iii.        | What is Narcissistic?   | 1 |
| iv.         | Which of the following is component of a Calc Screen?<br><br>(a) Menu Bar<br><br>(b) Formatting Bar<br><br>(c) Both of the above<br><br>(d) None of the above | 1 |
| v.          | Shortage of funds and resources, Is it barrier to Become an Entrepreneur? (Yes/No)  | 1 |
| vi.         | Enlist green jobs available in your area.   | 1 |

| <b>Q. 2</b> | <b>Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)</b>   |   |
|-------------|--|---|
| i.          | A _____ is a machine that converts power into potential energy stored in pressurized air.  | 1 |
| ii.         | Tyre inflation gauges can be of _____<br><br>a. Analog type.<br><br>b. Digital type.<br><br>c. Either (a) or (b).<br><br>d. Neither (a) nor (b).                                     | 1 |
| iii.        | Which compressors deliver a fixed volume of air at high pressure?  | 1 |
| iv.         | Medium-pressure compressors, which have a discharge pressure of _____<br><br>a. 150 psi or less<br><br>b. 151 psi to 1,000 psi<br><br>c. Above 1,000 psi<br><br>d. None of the above | 1 |
| v.          | Write classification of car washers.   | 1 |

|      |  |   |
|------|--|---|
| vi.  | Spark plug cleaner and tester operates on _____ AC power source. (420V/220V) | 1 |
| vii. | Define wheel rake.(Camber)   | 1 |

|             |  |   |
|-------------|--|---|
| <b>Q. 3</b> | <b>Answer any 6 out of the given 7 questions (1 x 6 = 6 marks)</b>   |   |
| i.          | The amount of camber is generally kept between _____.<br>a. 0 – 2°<br>b. 0 – 4°<br>c. 0 – 6°<br>d. 0 – 8°  | 1 |
| ii.         | What is the purpose of giving an inward inclination to king-pin?   | 1 |
| iii.        | The function of _____ is to convert rotary movement of steering wheel into reciprocating motion of the drag link.  | 1 |
| iv.         | Write one advantage of power steering system.  | 1 |
| v.          | Which type of steering gear box is widely used in heavy vehicles?<br>a. Worm and sector<br>b. Worm and roller<br>c. Rack and Pinion<br>d. Re-circulating ball type | 1 |
| vi.         | Define rolling during oscillation of sprung weight of a car.   | 1 |
| vii.        | Define yawing during oscillation of sprung weight of a car.  | 1 |

|             |   |   |
|-------------|---|---|
| <b>Q. 4</b> | <b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>                    |   |
| i.          | Define hopping during oscillation of un-sprung weight of a car.                       | 1 |
| ii.         | What is nip of a leaf spring?   | 1 |
| iii.        | Springs are made of _____.<br>a. Mild steel<br>b. Carbon steel<br>c. High speed steel | 1 |

|     |   |   |
|-----|---|---|
|     | d. Spring steel                                       |   |
| iv. | Write importance of silencer pad used in leaf spring. | 1 |
| v.  | Name any two components of transmission system.       | 1 |
| vi. | Write purpose of slip joint.                          | 1 |

|             |   |   |
|-------------|---|---|
| <b>Q. 5</b> | <b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>                                    |   |
| i.          | Write two important functions of final drive.   | 1 |
| ii.         | Which components allows outer wheel runs faster than the inner wheels while taking a turn?            | 1 |
| iii.        | Sometime a _____ is welded outside the propeller shaft tube for the purpose of balancing dynamically. | 1 |
| iv.         | What is cutting in speed?   | 1 |
| v.          | Enlist any two parts of charging system.  | 1 |
| vi.         | The _____ regulator consists of a heavy series winding. ( current/voltage)                            | 1 |

|             |   |   |
|-------------|---|---|
| <b>Q. 6</b> | <b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>  |   |
| i.          | The amount of current produced depends upon _____ factors.<br>a. The strength of the magnetic field,<br>b. Rotating speed of magnetic field<br>c. The number of conductors passing through the magnetic field.<br>d. All of the above | 1 |
| ii.         | What does TPS stand for?<br>(a) Throttle Position Sensor<br>(b) Throttle Payment Sensor<br>(c) Throttle Program Sensor<br>(d) Throttle Pointing Sensor  | 1 |
| iii.        | Temporary license is valid for.....months.  | 1 |
| iv.         | For a commercial new vehicle the initial fitness certificate is valid for _____<br>a) 15 years<br>b) 10 years<br>c) 5 years   | 1 |

|     |   |   |
|-----|---|---|
|     | d) 2 years  |   |
| v.  | The violation of which of the following road safety signs is a legal offence?<br>a) Mandatory signs<br>b) Cautionary signs<br>c) Information signs<br>d) All of the above | 1 |
| vi. | Emission includes _____<br>a) NO <sub>x</sub><br>b) SO <sub>x</sub><br>c) Hydrocarbons<br>d) All of the above   | 1 |

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

**Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks)**

**Answer each question in 20 – 30 words.**

|       |  |   |
|-------|--|---|
| Q. 7  | Enlist any four parts of speech.                                 | 2 |
| Q. 8  | Write importance of self-motivation.                             | 2 |
| Q. 9  | Explain tools method of password protection in Open Office Calc. | 2 |
| Q. 10 | Explain, Fear as a barrier.                                      | 2 |
| Q. 11 | How to minimize waste and pollution in green job?                | 2 |

**Answer any 3 out of the given 5 questions in 20 – 30 words each (2 x 3 = 6 marks)**

|       |  |   |
|-------|--|---|
| Q. 12 | Enlist the various parts of car washer.  | 2 |
| Q. 13 | Write short note on Electronic Power Steering system.                                      | 2 |
| Q. 14 | What are the functions of propeller shaft?   | 2 |
| Q. 15 | Name different components of the starting system.  | 2 |
| Q. 16 | Draw a neat sketch of following mandatory signs.<br>a) U TURN PROHIBITED<br>b) SPEED LIMIT | 2 |

**Answer any 2 out of the given 3 questions in 30– 50 words each (3 x 2 = 6 marks)**

|       |  |   |
|-------|--|---|
| Q. 17 | Write advantages of MacPherson Strut Suspension. | 3 |
| Q. 18 | What are the requirements of Universal Joint?    | 3 |
| Q. 19 | Explain commentator.                             | 3 |

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

|       |  |   |
|-------|--|---|
| Q. 20 | Explain the construction and working of spark plug cleaner and tester.             | 4 |
| Q. 21 | Draw the sketch of any two types of leaf spring used in suspension system.         | 4 |
| Q. 22 | Explain the operation of differential with diagram when the vehicle taking a turn. | 4 |
| Q. 23 | Explain working of starter motor.  | 4 |
| Q. 24 | With neat sketch, Explain Evaporative Emission Control.                            | 4 |