

CBSE – DEPARTMENT OF SKILL EDUCATION

AUTOMOTIVE (SUBJECT CODE 404)

MARKING SCHEME SAMPLE QUESTION PAPER

Class X (Session 2019–2020)

Time: 2 Hours

Max. Marks: 50

General Instructions:

1. *This Question Paper consists of two parts viz. Part A: Employability Skills and Part B: Subject Skills.*
2. **Part A: Employability Skills (10 Marks)**
 - i. *Answer any 4 questions out of the given 6 questions of 1 mark each.*
 - ii. *Answer any 3 questions out of the given 5 questions of 2 marks each.*
3. **Part B: Subject Skills (40 Marks):**
 - i. *Answer any 10 questions out of the given 12 questions of 1 mark each.*
 - ii. *Answer any 4 questions from the given 6 questions of 2 marks each.*
 - iii. *Answer any 4 questions from the given 6 questions of 3 marks each.*
 - iv. *Answer any 2 questions from the given 4 questions of 5 marks each.*
4. *This question paper contains 39 questions out of which 27 questions are to be answered.*
5. *All questions of a particular part/section must be attempted in the correct order.*
6. *The maximum time allowed is 2 hrs.*

PART A: EMPLOYABILITY SKILLS (10 MARKS)

Answer any 4 questions out of the given 6 questions of 1 mark each:

1.	D	(1)
2.	A	(1)
3.	Self-management skills definition refers to our abilities to control our feelings, emotions, and activities. They play a decisive role in our personal and business life	(1)
4.	B	(1)
5.	C	(1)

6.	A	(1)
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Answer any 3 questions out of the given 5 questions of 2 marks each:

7.	Communication is the act of conveying meanings from one entity or group to another through the use of mutually understood signs, symbols, and semiotic rules	(2)
8.	1.Wet hands with water 2.Apply enough soap to cover all hand surfaces 3. Rub hands palm to palm 4. Rinse hands thoroughly with water 5. Use towel to dry	(2)
9.	The various benefits include the following: <ul style="list-style-type: none"> • Do what you are interested in: Entrepreneurship allows you to start and do something you like using your hobbies and skills. • Work for yourself, and not for others: As an entrepreneur, you can work for yourself and not for someone else. You can decide the kind of work you like to do and how you want to do it. • Make profits for yourself: As an entrepreneur, you can decide how much money you want to earn and how you want to earn it. • More risk, more profit: Even though there are risks in entrepreneurship, it allows you to decide how much risk you want to take. Usually, the larger the risk, the bigger could be the profit 	(2)
10.	(i) control unit (CU), (ii) arithmetic and logic unit (ALU),and (iii) memory unit (MU).	(2)
11.	The skills used for promoting green economy are known as green skills. These skills are needed in areas similar to renewable energy, sewer water treatment, climate resilient cities, green construction, solid waste management,etc Some of the areas in which green skills contribute to the sustainable development are as follows: <ul style="list-style-type: none"> • using renewable energy (example, using solar power and wind energy) • water and waste management • rain water harvesting • conserving energy • reducing pollution 	(2)

PART B: SUBJECT SKILLS (40 MARKS)

Answer any 10 questions out of the given 12 questions:

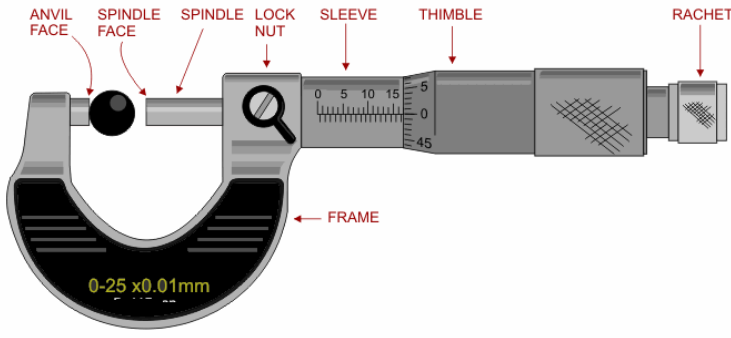
12.	Top Dead Center	(1)
13.	B	(1)
14.	B	(1)

15.	C	(1)
16.	B	(1)
17.	dirt	(1)
18.	high	(1)
19.	Manufacturer	(1)
20.	(i) Serviceability (ii) Working test procedure	(1)
21.	Hybrid cars	(1)
22.	customers	(1)
23.	D	(1)

Answer any 4 questions out of the given 6 questions of 2 marks each:

24.	1. Conventional Chassis frame- For heavy / medium vehicles 2. Integral Chassis frame for cars 3. 'X' type Chassis frame for Jeeps.	(2)
25.	1. Caliper 2. Screw Gauge	(2)
26.	To keep your radiator system free of corrosion and performing well keeping your car engine cool.	(2)
27.	After sales service plays an important role in customer satisfaction and customer retention. It generates loyal customers and increases a brand value. Customers start believing in the brand and get associated with the organization for a longer duration	(2)
28.	They help maintain control while stopping, as well as throw the door open to stability control and roll mitigation technologies.	(2)
29.	Yes The technician/mechanic must use the service manual regularly to check the serviceability of component. This helps the technician to decide about replacement of component. The modern automobile requires attention to maintain its working while assembly. Reading helps in maintaining the tolerances, play for smooth working of components or assembly.	(2)

Answer any 4 questions out of the given 6 questions of 3 marks each:

30.	S.N o	Tube Tyre	Tubeless Tyre	(3)
	1	It encloses a tube in which air is forced to high pressure.	There is no tube, the air under pressure filled in the tyre itself.	
	2	A non-return valve is fitted to the tube to fill air.	A non return valve is fitted to the rim, through with air is forced inside the tyre.	
	3	For repair of punctured tube the tube has to be removed from the tyre & rim.	Without removing tyre from the rim, the puncture can be repaired by rubber plug. But It can run few kilometres with punctured tyre.	
31.	<p>Screw gauge is a measuring instrument used to measure very fine and precise dimensions of length, width, thickness, diameter etc. It measure the cylindrical component like shaft, bolt, coin, boll etc.</p> 			(3)
32.	<ol style="list-style-type: none"> 1. Wear old clothes for this job. 2. Soap dries fast. Wash one side at a time to keep the soap from drying on your car's paint. 3. Wet and wring out your clothes before you dry, it will absorb water better. 4. Do not use detergent, dish soap. Detergent, dish soap is designed for dishes. Use car wash soap only 			(3)
33.	<p>The innovation: Airbags have graduated from things that simply blast out of the dashboard to more advanced devices that protect you in a rollover, cushion your knee and adjust for smaller drivers. They can also determine the severity of the impact, your seat position and whether you're wearing a seat belt.</p> <p>What we did before: Relied on seat belts, if we wore them, to protect us.</p> <p>Which cars have them: All cars must have front airbags.</p>			(3)
34.	<p>The automobile sales person is a very important person in the sale and marketing of a vehicle. It is expected that a set of duties will be performed by this person.</p> <ol style="list-style-type: none"> 1. Sells/leases and delivers a minimum number of vehicle per month (target given by shop owner). 2. Approaches, greets and offers assistance or direction to any customer who enters 			(3)

	<p>the dealership.</p> <p>3. Assists customers in selecting a vehicle by asking questions and listening carefully to their responses.</p> <p>4. Explains fully the product performance, application and benefits.</p>	
35.	<p>Service manual gives the following knowledge to the vehicle owner</p> <ol style="list-style-type: none"> 1) Expanded view of assembly 2) Disassembly sequence 3) Tolerances, gauges, sizes of components 4) Serviceability 5) Life span of various components and its replacement schedule. 6) Decision for Repair or Replacement 7) Assembly procedure and 8) Working test procedure 	(3)

Answer any 2 questions out of the given 4 questions of 5 marks each:

36.	<p>A cooling system works by sending a liquid coolant through passages in the engine block and heads. As the coolant flows through these passages, it picks up heat from the engine. The heated fluid then makes its way through a rubber hose to the radiator in front of the car. As it flows through the thin tubes in the radiator, the hot liquid is cooled by the air stream entering the engine compartment from the grill in front of the car. Once the fluid is cooled, it returns to the engine to absorb more heat. The water pump has the job of keeping the fluid moving through this system of plumbing and hidden passages. A thermostat is placed between the engine and the radiator to make sure that the coolant stays above a certain preset temperature. If the coolant temperature falls below this temperature, the thermostat blocks the coolant flow to the radiator, forcing the fluid instead through a bypass directly back to the engine. The coolant will continue to circulate like this until it reaches the design temperature, at which point, the thermostat will open a valve and allow the coolant back through the radiator.</p>	(5)
37.	<p>Some of common special tools are Universal holder, socket wrenches, flywheel puller, tappet cover wrench, Pierce plier, piston slide base, socket, front, fork oil seal driver, driver outer, ball race driver, tappet cover wrench.</p> <p>Universal clutch holding tool This universal clutch holding tool is tool for holding the compressor clutch when removing or installing the center nut.</p> <p>Torque wrench A torque wrench is a tool used to precisely apply a specific torque to a fastener such as a nut or bolt. It is usually in the form of a socket wrench with special internal mechanisms</p> <p>Tappet Wrench A wrench having parallel jaws at fixed separation (often on both ends of the handle).</p> <p>Flywheel puller</p>	(5)

	<p>A proper flywheel puller is the only correct and safe way to remove a flywheel from engine. Without using the recommended tool, there are chances of damaging the flywheel which could lead to a potential reliability issue.</p>	
<p>38.</p>	<p>1. Prepare your car The car should be on a level surface with the parking brake on and engine off, leaving the oil to cool for a few minutes.</p> <p>2. Unscrew the oil cap Locate the oil cap (check with the manual to locate it) and unscrew it. This is very important, as a vacuum will not allow all the oil to drain out.</p> <p>3. Locate the oil drain plug Get underneath the car and locate the oil drain plug. This is a lone bolt at the bottom of the oil sump.</p> <p>4. Place the container Place a container big enough to hold the oil beneath the oil drain plug and unscrew the plug, being careful not to let it fall into the container.</p> <p>5. Drain out the old oil Allow all the oil to drain out. This can take several minutes.</p> <p>6. Locate the oil filter Locate the old oil filter with the help of your car's service manual. It should be identical to the one you are replacing it with.</p> <p>7. Remove the old oil filter Turn the filter wrench anti-clockwise to loosen the oil filter. The filter may be full of oil so take care not to spill any.</p> <p>8. Prepare the new filter Clean up the filter seat on the engine and place a light coating of oil on the gasket of the new filter.</p> <p>9. Install the new filter Carefully screw the new filter into place by hand, making sure it is not overtight. Screw back in the oil drain plug and tighten it with the wrench.</p> <p>10. Fill up with oil Using the funnel, carefully fill the engine oil, avoiding spillages. Measure the oil level with the dipstick after every two litres filled.</p> <p>11. Check the level is correct When oil has reached the correct level, replace the oil cap. Turn on the engine for ten minutes and then off again. Check the oil level with the dipstick once again - if the level is low, add more oil.</p> <p>12. Clean up Clean up all oil spillages on your engine and check for any leaks from the drain plug.</p> <p>13. Properly dispose of the old oil and filter Used oil is highly toxic and must never be disposed off with domestic waste. It's illegal to pour used oil into the sewage network. Put the used oil in a sealed container and label it. Then take it to an auto repair centre, service station or recycling centre. Most places will accept used oil for free.</p>	<p>(5)</p>
<p>39.</p>	<p>One of the most important aspects of customer service is that of what is often referred to as the Feel Good Factor. Basically the goal is to not only help the customers have a good experience, but to offer them an experience that exceeds their expectations. Several key points are listed as follows:</p> <p>1. Know your product : Know what products/service you are offering. In other words, be an information expert. It is okay to say 'I don't know', but it should always</p>	<p>(5)</p>

be followed up by "but let me find out" or possibly "but my friend knows!" Whatever the situation may be, make sure that you don't leave your customer with an unanswered question

2. Body Language/Communication: Most of the communication that we relay to others is done through our body language. If we have a negative body language when we interact with others it can show our lack of care. Two of the most important aspects of positive body language are smiling and eye contact. Make sure to look your customers in the eye. It shows that we are listening to them. And then of course, smiling makes the conversation more positive.

3. Anticipate Guest Needs: 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.