ICSE 2026 EXAMINATION

SPECIMEN QUESTION PAPER

AUTO SERVICE TECHNICIAN

Maximum Marks: 100

Time allowed: Two hours

1. *Answers to this Paper must be written on the paper provided separately.*
2. *You will **not** be allowed to write during the first **15** minutes.*
3. *This time is to be spent in reading the question paper.*
4. ***The time given at the head of this Paper is the time allowed for writing the answers.***

5. *Attempt **all** questions from **Section A** and **any four** questions from **Section B.***
6. *The intended marks for questions or parts of questions are given in brackets [ ].*

Instruction for the Supervising Examiner

Kindly read aloud the Instructions given above to all the candidates present in the Examination Hall.

NOTE:

The Specimen Question Paper in the subject provides a realistic format of the Board Examination Question Paper and should be used as a practice tool. The questions for the Board Examination can be set from any part of the syllabus. However, the format of the Board Examination Question Paper will remain the same as that of the Specimen Question Paper.

SECTION A (40 Marks)

*(Attempt **all** questions from this **Section**.)*

Question 1

Choose the correct answers to the questions from the given options. [20]

(Do not copy the questions, write the correct answers only.)

(i) Time management is crucial for entrepreneurs to:

(a) ensure personal leisure time.

(b) efficiently allocate time to various tasks and enhance productivity.

(c) impress investors with a busy schedule.

(d) avoid hiring too many employees.

(ii) Which of the following pairs is **NOT** a part of the 7C's of communication?

(a) Completeness and Conciseness

(b) Consideration and Clarity

(c) Concreteness and Courtesy

(d) Confinement and Conduciveness

(iii) Ravi puts in consistent hard work to win the Best Student Award at the end of the year. What type of motivation does this represent?

(a) Internal

(b) External

(c) Both Internal and External

(d) Not any specific type of motivation

(iv) By which method can we know that the receiver has understood the message?

(a) Transmitter

(b) Feedback

(c) Message

(d) Listening

(v) Which of the following sentences contains an adverb?

(a) Sita drinks milk every day.

(b) Ram gifted me a new pen.

(c) I opened the door lock.

(d) Reema is 5-feet tall.

(vi) Using abbreviations in communication leads to which type of communication barrier?

(a) Linguistic

(b) Physical

(c) Cultural

(d) Organisational

(vii) Which of the following is **NOT** an element of the communication cycle?

(a) Channel

(b) Receiver

(c) Time

(d) Sender

(viii) What does a straight body posture show?

(a) Pride

(b) Professionalism

(c) Confidence

(d) Humility

(ix) Which of the following terms refers to transferring files from the Internet to a computer?

(a) Uploading

(b) Downloading

(c) Streaming

(d) Browsing

(x) Which of the following is **NOT** a communication barrier?

(a) Linguistic barrier

(b) Interpersonal barrier

(c) Financial barrier

(d) Organisational barrier

(xi) Identify the type of communication shown in the image given below:

(a) Written communication

(b) Visual communication

(c) Oral communication

(d) Verbal communication

(xii) **Assertion (A):** Time management is crucial for effective self-management.

Reason (R): Proper time management ensures that all tasks are completed on time without stress.

(a) (A) is true and (R) is false.

(b) (A) is false and (R) is true.

(c) Both (A) and (R) are true and (R) is the correct explanation of (A).

(d) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(xiii) Which of the following is an example of negative feedback?

(a) You can dance better.

(b) Your dance was good, but you can do better.

(c) Your dance skill is not really good. You have to practice more.

(d) You are a good dancer.

(xiv) Keeping the shoulders straight and upright, and the body relaxed is an example of:

(a) facial expressions

(b) posture

(c) gesture

(d) eye contact

(xv) What is a key component of time management?

(a) Procrastination

(b) Goal setting

(c) Multitasking

(d) Ignoring deadlines

(xvi) Which of the following is an example of self-motivation?

(a) Waiting for someone to tell you what to do.

(b) Setting personal goals and striving to achieve them.

(c) Relying on external rewards to get tasks done.

(d) Complaining about tasks that are not interesting.

(xvii) Which of these is a common barrier to effective self-management?

(a) Clear goal setting

(b) Lack of planning

(c) Regular self-reflection

(d) Effective time management

(xviii) Stress management is only necessary for people with mental health problems.

(a) True

(b) False

(xix) Aural communication is based on language and tone of voice.

(a) True

(b) False

(xx) To secure funding and providing a roadmap for the business is the primary purpose of a business plan.

(a) True

(b) False

Question 2

(i) Fill in the blanks: [5]

(a) _____ refers to the physical components of a computer system. *[Software / Hardware]*

(b) _____ is the skill of managing financial resources and ensuring the profitability of the business. *[Marketing / Financial Literacy]*

(c) _____ is the ability to stay organised and maintain a structured approach to work. *[Time Management / Planning Skills]*

(d) Effective communication requires both, the speaker, and the _____ to be actively engaged. *[leader / listener]*

(e) The _____ is responsible for encoding and transmitting the message in the communication process. *[receiver / sender]*

(ii) State True or False: [5]

(a) Deep breathing exercises can help manage stress.

(b) Self-management involves managing time and tasks only.

(c) Entrepreneurs should always rely on their own instincts rather than seeking advice from others.

(d) Non-verbal communication is just as important as verbal communication.

(e) Effective communication is the responsibility of the speaker only.

Question 3

(i) What role does time management play in working independently? [2]

(ii) State *one* difference between *formal communication* and *informal communication*. [2]

(iii) What is the advantage of using cloud storage? [2]

(iv) Why are green skills important in the modern workplace? [2]

(v) How does active listening contribute to effective communication? [2]

SECTION B (60 Marks)

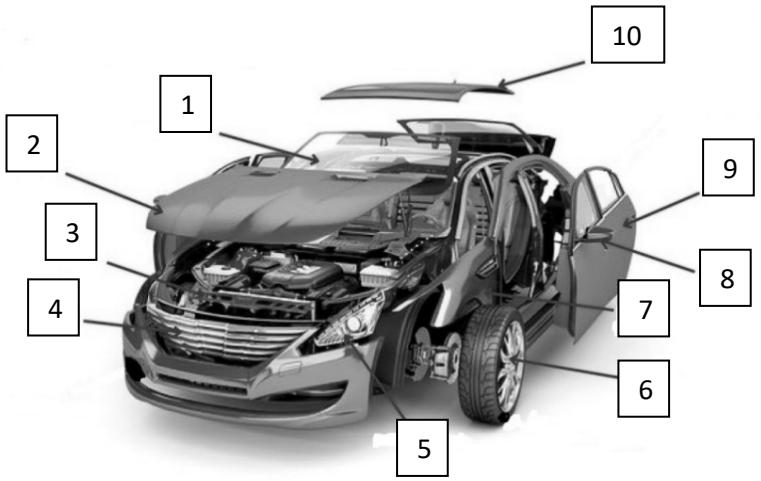
*(Answer **any four** questions from this Section.)*

Question 4

(i) Explain *any five* main functions of a *vehicle chassis*. [5]

(ii) Describe *any five* differences between a *Ladder Frame Chassis* and a *Monocoque Chassis*. [5]

(iii) Label the parts 1 to 10 of the vehicle shown in the image given below: [5]



Question 5

(i) Describe the working principle of a four-stroke internal combustion engine. [5]

(ii) What is the purpose of a crankshaft in an internal combustion engine? [5]

(iii) How does a fuel injector work in a modern engine? [5]

Question 6

(i) Write *five* differences between a *diesel engine* and a *gasoline engine*. [5]

(ii) Explain the primary functions of a lubrication system in a vehicle. [5]

(iii) Describe the components of a typical lubrication system in an internal combustion engine. [5]

Question 7

(i) What is the role of the oil filter in the lubrication system, and how does it work? [5]

(ii) Give *any five* differences between a *wet sump* and a *dry sump lubrication* system. [5]

(iii) Discuss the importance of oil viscosity in the lubrication system. [5]

Question 8

(i) Explain *any five* functions of a vehicle's cooling system. [5]

(ii) Describe the components of a typical liquid cooling system in an internal combustion engine. [5]

(iii) What is the role of the thermostat in a vehicle's cooling system? Explain how it operates. [5]

Question 9

(i) Mention *any five* primary functions of a vehicle's transmission system. [5]

(ii) Explain *any five* primary functions of a vehicle's steering system. [5]

(iii) Write the primary function of the following tools: [5]

(a) (b) (c)

(d) (e)

ICSE 2026 SPECIMEN

DRAFT MARKING SCHEME – AUTO SERVICE TECHNICIAN

SECTION A

Question 1		[20]
(i)	(b) efficiently allocate time to various tasks and enhance productivity.	
(ii)	(d) Confinement and Conduciveness	
(iii)	(a) Internal	
(iv)	(b) Feedback	
(v)	(a) Sita drinks milk every day.	
(vi)	(a) Linguistic	
(vii)	(c) Time	
(viii)	(c) Confidence	
(ix)	(b) Cloth bags are reusable and eco-friendly.	
(x)	(c) Financial barrier	
(xi)	(b) Visual communication	
(xii)	(c) Both (A) and (R) are true and (R) is the correct explanation of (A).	
(xiii)	(c) Your dance skill is not really good. You have to practice more.	
(xiv)	(b) posture	
(xv)	(b) Goal setting	
(xvi)	(b) Setting personal goals and striving to achieve them.	
(xvii)	(b) Lack of planning	
(xviii)	(b) False	
(xix)	(a) True	
(xx)	(a) True	

Question 2		
(i)	(a) Hardware (b) Financial Literacy (c) Planning skills (d) listener (e) sender	[5]
(ii)	(a) True (b) False (c) False (d) True (e) False	[5]
Question 3		
(i)	Time management helps individuals prioritize tasks, meet deadlines, and stay organized, which increases productivity and allows them to work independently with minimal supervision.	[2]
(ii)	**Formal communication** follows official channels and is structured, often used in workplaces or institutions. **Informal communication** is casual, spontaneous, and usually occurs among friends, colleagues, or peers without a set structure.	[2]
(iii)	The main advantage of using cloud storage is that it allows users to access data anytime, anywhere, and easily back up and share files over the internet.	[2]
(iv)	Green skills are important in the modern workplace because they help promote environmentally friendly practices, support sustainable development, and prepare workers for eco-conscious jobs in a changing global economy.	[2]
(v)	Active listening contributes to effective communication by ensuring the listener fully understands the speaker's message, shows respect, reduces misunderstandings, and builds stronger relationships.	[2]
SECTION B **Question 4**		
(i)	Main Functions of a Vehicle Chassis : 1. Supports the vehicle's body and components 2. Provides structural strength and stability 3. Holds and supports the engine and transmission	[5]

	4. Mounts the suspension system and wheels 5. Ensures safety and impact resistance	
(ii)	Five Differences Between Ladder Frame Chassis and Monocoque Chassis: **1. Structure:** o Ladder Frame: Body mounted on a separate frame o Monocoque: Body and frame are a single unit **2. Weight:** o Ladder Frame: Heavier o Monocoque: Lighter **3. Strength:** o Ladder Frame: Better for heavy loads and off-road o Monocoque: Stronger in crash safety for passengers **4. Cost:** o Ladder Frame: Cheaper to build and repair o Monocoque: More expensive to manufacture **5. Usage:** o Ladder Frame: Common in trucks and SUVs o Monocoque: Common in cars and light vehicles	[5]
(iii)	1. Windshield 2. Bonnet (Hood) 3. Panel 4. Grill 5. Headlight 6. Alloy or wheel cap 7. Fender 8. Rear view mirror 9. Front door 10. Roof	[5]
Question 5		
(i)	A four-stroke internal combustion engine completes one power cycle in four strokes of the piston: **1. Intake Stroke –** The intake valve opens, and the piston moves down, drawing in the air-fuel mixture. **2. Compression Stroke –** The piston moves up with valves closed, compressing the mixture.	[5]

	3. **Power Stroke –** A spark ignites the compressed mixture, forcing the piston downward and producing power. 4. **Exhaust Stroke –** The exhaust valve opens, and the piston moves up again, pushing out burnt gases.	
(ii)	The crankshaft converts the up-and-down (reciprocating) motion of the pistons into rotational motion that drives the vehicle's wheels. It is connected to the pistons through connecting rods and plays a key role in maintaining engine balance, timing, and delivering power to the drivetrain.	[5]
(iii)	A fuel injector is an electronically controlled device that sprays a fine mist of fuel into the engine's combustion chamber. It receives signals from the engine control unit (ECU), which determines the exact timing and amount of fuel needed. The injector opens and closes rapidly, ensuring precise fuel delivery, better combustion, improved fuel efficiency, and reduced emissions in modern engine.	[5]
Question 6		
(i)	Five Differences Between Diesel Engine and Gasoline Engine: 1. **Fuel Type**: o *Diesel Engine*: Uses diesel fuel o *Gasoline Engine*: Uses petrol/gasoline 2. **Ignition Method**: o *Diesel Engine*: Uses compression ignition o *Gasoline Engine*: Uses spark ignition 3. **Efficiency**: o *Diesel Engine*: More fuel-efficient o *Gasoline Engine*: Less fuel-efficient 4. **Power Output**: o *Diesel Engine*: Higher torque, lower RPM o *Gasoline Engine*: Higher speed, lower torque 5. **Maintenance Cost**: o *Diesel Engine*: Generally higher maintenance cost o *Gasoline Engine*: Lower maintenance cost	[5]
(ii)	Five Primary Functions of a Lubrication System in a Vehicle: 1. **Reduces Friction** – Minimizes wear between moving engine parts. 2. **Cools Engine Parts** – Helps carry away heat from engine components. 3. **Cleans Engine** – Removes dirt, metal particles, and sludge through oil circulation.	[5]

	4. **Prevents Corrosion** – Forms a protective film on metal surfaces to stop rust. 5. **Seals Gaps** – Helps seal tiny gaps between piston rings and cylinder walls for better compression.	
(iii)	Five Components of a Typical Lubrication System in an Internal Combustion Engine: 1. **Oil Pump** – Circulates oil under pressure to engine parts. 2. **Oil Filter** – Removes impurities and debris from the oil. 3. **Oil Pan (Sump)** – Stores the engine oil at the bottom of the engine. 4. **Pressure Relief Valve** – Regulates oil pressure to prevent damage. 5. **Oil Galleries (Passages)** – Channels through which oil flows to lubricate engine parts.	[5]
Question 7		
(i)	The **oil filter** plays a crucial role in maintaining engine health by removing dirt, metal particles, carbon deposits, and other impurities from the engine oil. Clean oil ensures smooth engine operation and reduces wear. **How it works:** As oil circulates through the engine, it passes through the oil filter. Inside, a filtering element traps contaminants while allowing clean oil to flow through. This filtered oil is then sent back to lubricate engine components, ensuring efficient and long-lasting engine performance.	[5]
(ii)	Five Differences Between Wet Sump and Dry Sump Lubrication Systems: **1. Oil Storage** o Wet Sump: Oil is stored in the oil pan (sump) below the engine. o Dry Sump: Oil is stored in a separate external reservoir. **2. Oil Pump Setup** o Wet Sump: Uses a single oil pump. o Dry Sump: Uses multiple pumps (scavenge and pressure pump). **3. Engine Height** o Wet Sump: Increases engine height due to the sump. o Dry Sump: Allows a lower engine profile, suitable for performance vehicles.	[5]

	4. Lubrication Efficiency o Wet Sump: Less efficient under high-speed or inclined conditions. o Dry Sump: Maintains consistent oil flow even during aggressive driving or racing. **5. Cost and Complexity** o Wet Sump: Simpler and cheaper. o Dry Sump: More complex and expensive to maintain.	
(iii)	**Importance of Oil Viscosity in the Lubrication System:** Oil viscosity refers to the thickness or resistance to flow of the oil. It plays a crucial role in the effectiveness of the lubrication system: 1. **Proper Film Formation** – Correct viscosity ensures a stable oil film between moving parts, reducing friction and wear. 2. **Cold Start Protection** – Low-viscosity oil flows quickly during cold starts, providing immediate lubrication. 3. **Heat Resistance** – High-viscosity oil maintains its protective qualities at high temperatures without breaking down. 4. **Engine Efficiency** – The right viscosity reduces energy loss from internal resistance, improving fuel efficiency. 5. **Component Protection** – Ensures engine parts like bearings, pistons, and crankshaft remain well-lubricated under varying conditions, extending engine life.	[5]
Question 8		
(i)	Five Functions of a Vehicle's Cooling System: 1. **Maintains Optimal Engine Temperature** – Prevents the engine from overheating by regulating temperature. 2. **Removes Excess Heat** – Transfers heat away from engine components to the atmosphere. 3. **Prevents Engine Damage** – Avoids warping, cracking, or seizing of parts due to excessive heat. 4. **Improves Engine Efficiency** – Keeps engine parts at ideal operating temperature for better performance and fuel efficiency. 5. **Maintains Lubrication** – Prevents oil from breaking down due to high temperatures, ensuring proper lubrication.	[5]
(ii)	Components of a Typical Liquid Cooling System in an Internal Combustion Engine: 1. **Radiator** – Cools the hot coolant by transferring heat to the air. 2. **Water Pump** – Circulates coolant throughout the engine and cooling system.	[5]

	3. **Thermostat** – Regulates coolant flow based on engine temperature. 4. **Coolant (Antifreeze)** – A liquid mixture that absorbs and transfers heat from the engine. 5. **Radiator Fan** – Assists in cooling the radiator, especially when the vehicle is stationary or moving slowly.	
(iii)	Role and Operation of the Thermostat in a Vehicle's Cooling System : The thermostat regulates the flow of coolant between the engine and the radiator to maintain the engine's optimal operating temperature. **How it operates:** • When the engine is cold, the thermostat stays closed, allowing the engine to warm up quickly by restricting coolant flow. • Once the engine reaches a specific temperature (usually around 80–90°C), the thermostat opens, allowing coolant to flow to the radiator for heat dissipation. This helps in improving fuel efficiency, reducing engine wear, and preventing overheating.	[5]
Question 9		
(i)	Five Primary Functions of a Vehicle's Transmission System: 1. **Transfers Power** – Transmits engine power to the wheels. 2. **Speed and Torque Control** – Adjusts speed and torque as needed through gear changes. 3. **Allows Vehicle to Move in Reverse** – Enables backward motion using reverse gear. 4. **Disconnects Engine from Wheels** – Allows the engine to run without moving the vehicle (via neutral or clutch). 5. **Improves Fuel Efficiency** – Maintains optimal engine speed for different driving conditions.	[5]
(ii)	**Five Primary Functions of a Vehicle's Steering System :** 1. **Controls Direction** – Allows the driver to guide and change the direction of the vehicle. 2. **Provides Stability** – Maintains vehicle balance and control while turning. 3. **Ensures Cornering Safety** – Enables smooth and safe turns at various speeds. 4. **Reduces Driver Effort** – Power-assisted systems make steering easier and more comfortable. 5. **Absorbs Road Shocks** – Works with suspension to reduce the impact of road irregularities on steering.	[5]

(iii)	(a) **Band-Type Oil Filter Wrench :** It is used to remove or tighten cylindrical oil filters in vehicles during oil changes. (b) **Cross wheel wrench (also called a cross rim wrench) :** It is used for loosening and tightening wheel nuts (lug nuts) on vehicles. (c) **Jack** : used to lift a vehicle off the ground, typically to change a flat tire, and Perform basic underbody inspections or repairs (d) **Combination Pliers (also known as Linesman Pliers) :** Combination pliers are multi-purpose hand tools used by mechanics and electricians for **g**ripping and holding objects, cutting wires etc. (e) **Screwdrivers :** Screwdrivers are used to drive (tighten) or remove (loosen) screws.	[5]