

Oxford
Revise & Assess
Pre-Technical Studies



Answers



Suggested answers to Model Assessment papers

Model Assessment Paper I

1. (a) Technical Studies, Computer Studies and Business Studies
(b) To identify and improve the talent and skills one is good at and develop a more practical approach to it.
2. (a) Possible harm or danger one exposes themselves to or any object or unsafe condition that can harm, cause illness or death.
(b)
 - Injury from tripping and falling in the river
 - Drowning
3. (a) Computer is an electronic device that accepts data from a user, processes the data using given instructions, stores it and presents it in a desired format.
(b) Data are raw facts which include numbers, text, images, audio or videos that are input into a computer.
(c) Information is data that has been processed and made meaningful to the user.
4.
 - He can use a laptop or smartphone to send emails.
 - He can send text messages using his mobile phone.
5.
 - Serves as a visual language. It helps us visualise technical concepts and information that are difficult to express in words.
 - Helps us collaborate with other professionals in sharing ideas more efficiently and effectively.
 - Fosters creativity and innovation.
 - Improves our observational skills.
 - Improves our memory. Helps us reinforce our ability to retain information and recall details.
 - Helps sharpen our planning, problem-solving and analytical abilities.
 - Helps relieve stress and improve our mental health.

6. (a)

	Metallic	Non-metallic
(a)	Copper wire	Plastic cup
(b)	Steel spoon	Wooden plank
(c)	Aluminium sufuria	Book cover
		Glass
		Stone

(b) Any three descriptions of the following physical properties magnetism, conductivity, appearance, strength, density, corrosion resistance, malleability and ductility among others.

7.

Property	Synthetic materials	Non-synthetic materials
Origin	Man made	Natural
Composition	Complex	Simple
Processing	Controlled manufacturing process	Require minimal processing
Physical properties	Can be engineered to exhibit specific properties	Exhibit properties in their natural composition
Environmental impact	Do not degrade easily	Environmentally friendly
Cost	Produced at lower cost	Expensive due to limited availability

8. (c) Weighing balance, (e) stopwatch, (f) steel rule and (g) tape measure

9. (a) Production refers to the process of creating goods or providing services. In the case of Wapishi Women's Group, production involves baking wheat products which they sell to customers in their local community.

- (b)
- Availing products that consumers require.
 - Increasing variety of products that are available to consumers.
 - Improving the living standards of people.
 - Enables people to earn a living from income.
 - Enables government to earn revenue in form of taxes and fees.
 - Promotes exploitation of local resources in a community as well as the country.

- Enables a country to earn foreign exchange from exports of products.
- Enhances a country's self-reliance on locally produced products.

10. Alice

11. (a) Financial goals are targets on how to earn, save and spend money.

- (b) • Helps an individual set targets in the order they want to achieve them.
- Helps an individual align their interests and actions.
 - It motivates an individual to keep moving forward when faced by unexpected challenges.
 - It enables an individual track progress towards set goals.
 - It enables one determine how much to save from one's income.

12. (a) A business unit that uses economic resources to provide goods and services for sale with the aim of making profit.

- (b) - Availability of electricity and other factors such as water.
- Availability of potential customers
 - Availability of labour
 - Access to supportive services such as banking

Model Assessment Paper 2

- Facilitate work such as typing, storing information, preparing tables and presentations.
 - Allows her to communicate with different people regardless of the location.
 - Entertainment such as listening to music, watching movies and videos, and chatting with friends and colleagues.
- Hybrid computers have incorporated properties of both digital and analogue computers.
- (a) opportunity; entrepreneur

(b) Production refers to the process of creating goods or providing services. According to the story, production involves the exploitation of land that is stony to get useful quarry stones.

(c) • It will make available quarry stones that they may use for construction.

 - It will enable Kajiwe to earn income from the sale of quarry stones.
 - It will enable people who may be employed by Kajiwe to work in the quarry to earn income.

- The income earned by Kajiwe as well as his workers will enable them improve their standards of living.
 - It will promote exploitation of local resources in the form of stony land in the community.
 - It will enhance the community's self-reliance on locally produced products in the form of quarry stones.
4. (a) "Good" refers to any physical thing that can be used to satisfy human wants. A service refers to any human action that can help to satisfy a human want.

(b)

	Characteristics of goods	Characteristics of services
(i)	They are physical commodities.	They are human actions.
(ii)	They are tangible.	They are intangible.
(iii)	They can be stored.	They cannot be stored.
(iv)	Price is paid for their ownership.	Price is paid for the experience.
(v)	They can be separated from their producers.	They are inseparable from their providers.
(vi)	Some are homogeneous in that they can be made to look identical.	They are heterogeneous in that they are difficult to make similar.
(vii)	They are physical commodities	They are human actions

(c)

	Possible goods for sale	Possible services to offer
(i)	Shoes	Hair cutting services
(ii)	Clothes	Taxi services
(iii)	Stationary	Garbage collection

5. (a)
- Creation of employment opportunities.
 - Advancement in technology.
 - Utilisation of locally available resources.
 - Contribution of taxes.
 - Provision of a variety of goods and services.
 - Improving the standards of living.
 - Spurring improvement in infrastructure.

- (b) • It provides career opportunities to Mama Mboga through self-employment.
 - Mama Mboga is able to earn an income in the form of profits from the business.
 - It helps Mama Mboga to improve her standards of living since she can afford to buy what she needs.
 - Mama Mboga feels self-actualised by doing what she likes. She also feels good about being able to supply vegetables to the community.
6. • It enables one to achieve financial goals by making informed decisions about saving, investing and paying debts.
 - It reduces stress and anxiety by giving one control over his or her finances.
 - One can plan for unexpected expenses and to avoid unnecessary debts.
 - Individuals can build wealth by saving money and making the right investment decisions.
 - One can pay their bills and debts on time and get a positive credit score.
 7. (a) Are medium sized computers that support multiple users at the same time.
 - (b) Personal computers (PC)
 - (c) Personal computers, laptops and desktops
 8. (a) Supercomputer is grouped by functionality and analogue computers are grouped by size
 - (b) By purpose
 9. (a) Mobile phones, laptops, tablets and desktops
 - (b) (i) Keep work environment clean, avoid negligence, report any potential risk and handle the machines appropriately.
 - (ii) Use passwords, avoid accepting requests from strangers and avoid visiting unauthorised sites
 10. • Serves as a visual language.
 - Helps collaborate with other professionals.
 - Fosters creativity and innovation.
 - Improves observational skills and memory.
 - Enhances planning, problem-solving and analytical skills.
 - Helps relieve stress and improve our mental health.
 11. Email, mobile phone, computers, video and web conferencing tools

12. Glass, plastic, wood, rubber, metals and ceramics
13. (a) Non-metallic materials are any materials, both synthetic and natural, which do not contain metal, and hence lack characteristics of metals. These materials can retain their unique chemical properties during the machining process.
- (b) *Natural non-metallic materials:* wood, soil, stones, rubber among others.
Synthetic non-metallic materials: plastics, glass, lubricants, adhesives among others
- (c) Metalwork, woodwork, manufacturing technology, Art and Design, Business Studies
14. Tools: Panga, saw, hammer, chisel, rake, pliers, spade, wrenches, screwdrivers among others.
Objects: toolboxes, cabinets, shelves, racks, keys, locks, chains, plates, nuts and bolts, screws, washers, rivets, clamps among others.
15. • Consistency or uniformity: Maintain a consistent or uniform lettering style, height and thickness.
- Stability and balance: Ensure the letters and numbers are stable and visually appealing.
- Legibility or clarity: Prioritise clarity to enhance readability. Avoid complex styles that do not stand out against the background.
- Spacing: Maintain consistent spacing between the letters and words. The letterings should be distinct and not touch each other.
- Neatness: The letterings must be neat in appearance and done in the correct style.
16. • One can engage in a money-making activity by utilising a skill one may have.
- When one gets an income generating activity, he supplies the country with a need which can be used to grow the economy.

Model Assessment Paper 3

1. • Supercomputers are used in large organisations to carry out multiple complex tasks and scientific research.
- Supercomputers are commonly used in meteorological departments for climate and weather forecasting and the medical field for research.

2. (a)

	Description	Type of good
(a)	Goods that are owned by government and provided for the benefit of all people.	Public goods
(b)	Goods that are availed to people without need for payment.	Free goods
(c)	Goods that are used by final consumers in order to satisfy their wants.	Consumer goods
(d)	Goods that can easily go bad especially without proper storage	Perishable goods

- (b)
- Goods and services enable people to satisfy their wants.
 - Some goods, such as foods, clothing and shelter, enable people to be alive.
 - Goods and services help to improve the quality of people's lives.
 - Some goods and services make people's lives more comfortable.

3. (a)

	Scenario	Fair competition	Stiff competition	Unfair competition
(i)	A rival business sets market prices and lets customers choose where they wish to buy.	✓		
(ii)	A rival business sponsors advertisement on television to give negative information about the competitor.			✓
(iii)	A rival business has high-quality products and services, which customers prefer to buy.		✓	

- (b) Listen to customers demands and practice ethical business.

4. (a) • An individual's priorities: One should think about their needs and wants and organise them in the order of importance.
- Amount of income: This determines whether one can achieve financial goals. One can also easily determine how much money to save.
- SMART goal setting: When setting financial goals, one should ensure that they are Specific, Achievable, Relevant and Time-bound.
- Time: An individual should know the period within which they hope to achieve the goals. They can then determine whether the goal is short-term, medium-term, or long-term.
- Obstacles: One should analyse the challenges they may face. Thus, they are able to plan on how to deal with the challenges.
- Monitoring progress: The individual must decide how they will monitor progress. This ensures that they are meeting their targets.
- (b) • Short-term financial goals
- Medium-term financial goals
- Long-term financial goals
- (c) Set priorities, align one's interest and actions, motivation, determine how much money to save, track records, enhance accountability and enables one to achieve goals.
- (d) • The internet
- Magazines
- Newspapers
- Friends, siblings, parents, guardians,
- Local business people
5. (a) Marking tools
- (b) A – Scribe B – Dot punch C – Marking gauge
- (c) A. Scribe: Used to mark lines on materials where pencils may not work well.
- B. Dot punch: Used to mark centres for drilling.
- C. Marking gauge: Used to scribe parallel lines along the edge of woodwork.
6. • Technical drawings are objective. They aim to represent the factual details, functions and structure of an object or a system.
- Artistic drawings are subjective. They aim to express or represent the personal feelings, emotions, and perspective (opinion or views) of the artist.

7. Ignore the request or never accept requests from strangers or engage with suspicious accounts.
8. Mobile phone, laptop and a desktop
9. (a) Ferrous materials (made of iron and its alloys) can rust when exposed to oxygen and moisture. Their properties include:
 - They are strong and can bear heavy loads and stresses.
 - They are magnetic - can be attracted by a magnet.
 - Have high density
 - Have high melting point.

As for corrosion, even non-ferrous materials (aluminium, copper, brass and bronze) can corrode if exposed to various environmental factors such as moisture, oxygen and chemicals.
- (b) Clean regularly, dry before storage, lubricate moving parts, sharpen blades, inspect regularly and use correctly.
10. Electrical and thermal insulation, lightweight, chemical and corrosion resistance, malleability, ductility, they do not produce ringing sound.
11. Communication is the process that involves sending and receiving information through verbal and non-verbal methods.

Importance of communication includes: sharing of feedback, making informed decisions and passing information. It also facilitates smooth operations and coordination of activities in the workplace.
12.
 - A learner can improve hands-on skills of performing a given task.
 - A learner can gain a sense of purpose as one is able to plan for a task and achieve it under a given time.
 - With the ability to perform a given task, a learner can get creative in the way he or she does the activity. It may also help the learner solve an issue that may be bothering the person.

Model Assessment Paper 4

1. Classification according to purpose
 - General purpose computers are computers that are programmed to perform many tasks. Examples of tasks include playing games, communicating via emails, building design, and building web pages. For example, the mainframe.

- Special purpose computers are computers that are designed to perform a single task only or a few tasks that are related, for example a calculator.
2. Microcomputers such as a laptop or smartphones
 3. (a) Respect, love, peace, unity
 - (b)

• Hardworking	• Persistent	• Decisive
• Creative	• Future-oriented	• Risk-takers
• Focused	• Adaptable	• Curious
• Budget making		
 - (c) Accept correct checklist
 4. Avoid friend requests from strangers, avoid posting personal information.
 5. A – Borderline; B – Hidden line; C – Phantom line; D – Construction line; E – centre line
 6. (a) Measuring tools
 - (b) A. Voltmeter B. Callipers C. Ammeter
 - (c) A. Voltmeter: Used to measure amount of voltage.
 B. Calliper: Used to measure the dimensions of an object.
 C. Ammeter: Used to measure amount of current.
 7. (a) Mobile phones, laptops, desktops
 - (b) Flash drive
 - (c) Printing machines and scanners
 - (d) Mobile phones, laptops, desktops
 8. (a)
 - Utensils and cutlery such as knives and forks.
 - Tools such as shovels and tongs
 - Hooks and hangers
 - Door handles, hinges, decorative items.
 - Brackets and shelf support
 - (b) High strength, malleability and ductility, conductivity, corrosion resistance and lustre
 - (c) Hammer, anvil, tongs, chisels, punches, files, vice, torch, safety equipment (heat-resistant gloves, aprons, goggles and ear protection)
 9. (a) Construction materials, ceramics and pottery, glass making, filtering and purification, agricultural applications, Art and craft, manufacturing abrasives
 - (b) Mulching, soil enrichment, container planting, decorative elements and water features.

10.
 - Enables sharing of feedback, passing of information and making informed decisions.
 - Facilitates smooth operations and coordination of activities in the workplace.
11. Architecture, engineering or draftsman

Model Assessment Paper 5

1. They are televisions that process data in binary numbers.
2. (a) True (b) False (c) True (d) False
3. (a) Specific (b) Realistic
4. (a) Spanners, pliers, screw drivers, mallet among others
- (b)
 - Lack of capital
 - Stiff competition from more established businesses
 - Lack of industry experience
 - Lack of management skills
- (c)
 - Having a unique product that customers would like to buy.
 - Understanding and meeting the needs of the customers.
 - Ability to maintain good relations with the customers.
 - Fair pricing of the products to ensure they are affordable to the customers.
 - Ability to keep and maintain proper and up-to-date business records.
 - Observing all government laws and regulations to avoid closure of the business by the authorities.
 - Ability to prepare and stick to a clear business plan.
 - Ability to carry out managerial functions in the business.
 - Having adequate finances to acquire the other resources required by the business.
 - Proper employee skills and attitudes to enhance business performance.
- (d) Facebook, X (Twitter), Instagram, Tiktok
5. Ignore and block the message
6. (a) Learning areas such as metalwork, woodwork, aviation technology, building construction, power mechanics, leatherwork, culinary arts, hairdressing and beauty therapy, marine and fisheries, manufacturing and media technology
- (b) Careers such as architecture, engineering in the following disciplines: mechanical, electrical, automotive, civil, aviation, marine, building, mechatronics, computing industries, draftsman, electrician, blacksmith, masonry and aviation.

7. (a) A – Tape measure; B – Steel rule; C – Scribe
 - (b) • Using them for the right task: Improper use of tools can lead to unnecessary damage and harm the user.
 - Cleaning after use: Reduces the chances of rust and helps diminish the rate of overall wear and tear.
 - Proper storage: To protect the tools from harsh weather conditions, damage and theft.
 - Regular inspection: Provides an opportunity to identify defects that may need repair or replacement in good time.
8. (a) Enabling communication through; sending, receiving and storage.
- (b) Expensive to buy and set up the devices, cost of internet, labour and training.
9. (a) Tape measure, a carpenter's square, straight edge, marking gauge, pencil or marker, claw hammer, chalk line, centre punch, combination square and saw.
- (b) A rabbit hutch can be made from a variety of materials, depending on factors such as budget, climate and personal preference. Here are some common materials used to make rabbit hutches:

Metallic materials	Non-metallic materials
1. Wire mesh	1. Wood
2. Corrugated metal for roofing	2. Waterproof tarpaulin to cover roof framework
3. Hardware such as hinges, latches, and screws.	3. Paint or stain for protective or decorative finish of the hutch
4. Nails	4. Foam board or straw

10. • Know your tools strengths and weaknesses.
- Know how to use them correctly and accurately.
- Always use the right tool for the right job.