



Director (C & C)

**PUNJAB EDUCATION, CURRICULUM,
TRAINING AND ASSESSMENT AUTHORITY**

21-B-II, Gulberg-III, Lahore
No: PECTAA/C&C/Uni/2025/326

Dated: 24.10.2025

NOTIFICATION

In accordance with the approval granted by the Academics Committee of the Punjab Education, Curriculum, Training and Assessment Authority in its 7th meeting held on 23.10.2025, the Pairing Schemes and Model Papers of Matric-Tech subjects for Grade-9 (Annex-A) are hereby notified for implementation across Punjab.

Director (Curriculum & Compliance)

CC:

1. PSO to the Minister, Government of the Punjab, School Education Department
2. PS to the Vice Chairperson, PECTAA / Parliamentary Secretary, School Education
3. PS to the Chairperson, Chief Minister Task Force for Examination & Assessment
4. PS to the Secretary, Government of the Punjab, School Education Department
5. PS to the Secretary, Government of the Punjab, Higher Education Department
6. PS to the Special Secretary, Government of the Punjab, SED
7. PS to the Special Secretary, Government of the Punjab, South Punjab, Multan
8. Staff Officer to the Chief Executive Officer, PECTAA
9. PS to all Managing Directors, PECTAA
10. PA to the Secretary, Punjab Boards Committee of Chairpersons (PBCC)
11. PS to the Chairperson, BISE (Lahore, Gujranwala, Rawalpindi, Sargodha, Faisalabad, Sahiwal, Multan, Dera Ghazi Khan and Bahawalpur)
12. PA to all Directors, PECTAA
13. PS to the Programme Director, PMIU
14. PS to Managing Director, Punjab Education Foundation
15. PS to the Chief Executive Officer, Punjab Education Initiatives Management Authority
16. PS to the Managing Director, Punjab Daanish Schools & Centres of Excellence Authority
17. PS to the DPI (Secondary Education), Punjab
18. PS to all Chief Executive Officers (Education), District Education Authorities, Punjab
19. Director (IT), PECTAA for uploading the Notification, Pairing Schemes and Model Papers of Matric-Tech subjects for Grade-9 on the website of PECTAA.
20. Office File

BOARD OF INTERMEDIATE & SECONDARY EDUCATION, SARGODHA

Endst. No: 48-M

Dated: 19-11-2025

Above said letter is forwarded to all concerned / Educational Institutions for information and implementation in true letter & spirit.

Note:- All model Papers of Metric Tech 9th Groups are available on Board's websites.(www.bisesargodha.edu.pk)

Assistant Secretary General
For Secretary

CC

1. All CEOs Education (Bhakkar, Khushab, Mianwali & Sargodha)
2. Director Public Relations Sargodha 3. APP Sargodha
4. All Educational Institutions (IVS & HSS Schools) affiliated with B.I.S.E Sargodha
5. PS to Chairman - 6. PA to Secretary 7. PA to Controller Examinations
8. Web Developer for website 9. All concerned Branches of Board

Annex-A

Punjab Education, Curriculum, Training & Assessment Authority Pairing Scheme of Health Science Grade-9



The paper of Health Sciences for Grade-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:

OBJECTIVE TYPE

Q.1: MULTIPLE CHOICE QUESTIONS 10 Marks (1 mark each)

Chapter # 1	1 MCQ
Chapter # 2	1 MCQ
Chapter # 3	1 MCQ
Chapter # 4	1 MCQ
Chapter # 5	1 MCQ
Chapter # 6	2 MCQ
Chapter # 7	2 MCQ
Chapter # 8	1 MCQ

OBJECTIVE TYPE (30 Marks)

Part-II: Subjective:	Q-2: Four short answer questions have to be answered out of 6. The detail is as follows:					2 × 4 = 8	
	Chapter		1	2	3		4
	No. of Short Questions per Chapter		1	1	2		2
Part-III: Subjective:	Q-3: Four short answer questions have to be answered out of 6. The detail is as follows:					2 × 4 = 8	
	Chapter		5	6	7		8
	No. of Short Questions per Chapter		1	2	2		1
Part-III: Subjective:	This section will contain three questions bifurcated in two-part a & b (carrying 4 & 3 marks respectively) and students have to attempt 2 questions.					2 × 7 = 14	
	The detail is as follows:						
	Q-4:						
	Chapter		1	3			
	Part		a	b			
	Q-5:						
	Chapter		4	6			
	Part		a	b			
	Q-6:						
	Chapter		7	8			
Part		a	b				

MODEL PAPER OF HEALTH SCIENCES FOR GRADE-9

Objective Type

Time allowed: 15 Mins.

Max. Marks: 10

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle with marker or pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.



- (i) A person feels weak, but medical tests are normal. This is
- (a) A disease (b) A disorder
- (c) An illness (d) An infection
- (ii) Which diagnostic procedure uses flexible tube to examine the GI tract
- (a) X-ray (b) Endoscopy
- (c) MRI (d) CT scan
- (iii) What is the common symptom of tuberculosis
- (a) Short term headache (b) Persistent cough lasting more than three weeks
- (c) Skin rash (d) Increased appetite
- (iv) Which of the following is a risk factor for coronary artery disease
- (a) Regular exercise (b) High cholesterol
- (c) Low blood pressure (d) Healthy diet
- (v) Which lab result is most commonly elevated in both AKI and CKD
- (a) Blood glucose (b) Serum creatinine
- (c) Platelet count (d) Hemoglobin level
- (vi) What does the "D" stands for
- (a) Diagnosis (b) Danger
- (c) Delivery (d) Duration
- (vii) Which method is used for suspected muscle or tendon injury
- (a) R.I.C.E (b) A.B.C
- (c) D.R.A (d) I.C.E
- (viii) Which exercise primarily strengthens the core
- (a) Squats (b) Push-ups
- (c) Plank (d) Walking lunges

- (xi) Which of the following can improve metabolic health
- | | |
|----------------------|--------------------------|
| (a) Regular exercise | (b) Poor diet |
| (c) Lack of sleep | (d) Sedentary life style |
- (x) Pale skin and fatigue suggest a deficiency of
- | | |
|---------------|-------------|
| (a) Vitamin A | (b) Calcium |
| (c) Iron | (d) Protein |



Subjective Type (Part-I)

Time allowed: 1.45 Hhrs.

Max. Marks: 16

Q. 2: Write short answers to any four (04) questions:

(2×4=8)

- (i) Differentiate between communicable and non-communicable diseases.
- (ii) What are some preventive measures for cholera?
- (iii) Discuss the symptoms and causes of asthma
- (iv) Write the names of diagnostic methods used to evaluate lung function and respiratory conditions
- (v) Write the risk factors for hypertension
- (vi) What is an ECG and what does it measure

Q. 3: Write short answers to any four (04) questions:

(2×4=8)

- (i) What is urinalysis? What abnormalities in urine indicate diseases.
- (ii) What does DRABC approach stand for in first aid?
- (iii) What is the primary first aid for a person suffering from burns?
- (iv) How does exercise contribute to weight management?
- (v) What are the dangers of poor posture during exercise?
- (vi) Differentiate between wasting and stunting.

Subjective Type (Part-II)

Note: Attempt any two questions.

(14)

- Q. 4:** (a) What are the functions of District Headquarters(DHQ) hospitals and teaching hospitals? **(4)**
- (b) Describe the role of pulmonary function test(PTF) and imaging techniques in diagnosing respiratory conditions. **(3)**
- Q. 5:** (a) Describe the function of heart. **(4)**
- (b) Discuss the different type of wounds and their appropriate first aid. **(3)**
- Q. 6:** (a) Describe the significance of the RICE method in managing sports injuries? **(4)**
- (b) What is anemia? Explain its causes, symptoms, effects on body and how it can be prevented. **(3)**

Punjab Education, Curriculum, Training & Assessment Authority

INSTRUCTIONS FOR PREPARATION OF EXAM PAPER OF AGRICULTURE SCIENCE FOR GRADE-9

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of Agriculture Sciences for Grade-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:



Part-I: Objective:	Q-1: 10 Multiple-Choice Questions (MCQs) will be developed from the entire content of the textbook. One MCQ will be asked from each chapter.	(1 × 10) = 10
Part-II: Subjective:	This section will contain two short answer questions. Each short answer question will be asked from the exercises of the textbook. The detail is as follows: Q-2: 4 short answer questions have to be answered out of 6. The detail is as follows: • One short answer question should be asked from each of chapters 1, 2, 3 and 4. • Two short answer questions should be asked from chapter 5.	(2 × 4) = 8
	Q-3: 4 short answer questions have to be answered out of 6. The detail is as follows: • One short answer question should be asked from each of chapters 6, 7, 8 and 9. • Two short answer questions should be asked from chapter 10.	(2 × 4) = 8
Part-III: Subjective:	This section will contain three detailed questions and students have to attempt two questions carrying 7 marks each. Each detailed question will be asked from the exercises of the textbook. The detail is as follows: Q-4: One detailed question will be asked either from Chapter 1 or Chapter 2 or Chapter 3. Q-5: One detailed question will be asked either from Chapter 4 or Chapter 5 or Chapter 6 or Chapter 7. Q-6: One detailed question will be asked either from Chapter 8 or Chapter 9 or Chapter 10.	(2 × 7) = 14

MODEL PAPER OF AGRICULTURE SCIENCE FOR GRADE-9

OBJECTIVE

Total Marks: 10

Class: 9th

Time Allowed: 15 mins

Q 1: Choose the correct option.

(1 × 10 = 10)

- i. Which of the following is a major constraint in Pakistani agriculture?
 - a. Excessive rainfall
 - b. Water scarcity
 - c. Over-irrigation
 - d. Lack of labor
- ii. Which crop is known for adding nitrogen to the soil?
 - a. Wheat
 - b. Rice
 - c. Legumes (e.g., beans peas)
 - d. Cron
- iii. Which crop is grown during the kharif season?
 - a. Wheat
 - b. Barley
 - c. Rice
 - d. Mustard
- iv. What is the main benefit of intercropping?
 - a. Increase soil erosion
 - b. Reduces biodiversity
 - b. c. Requires less labor
 - d. Optimizes resource use and reduces
- v. What is the role of afforestation in watershed management?
 - a. Increase soil erosion
 - b. Reduce groundwater recharge
 - c. Stabilize soil and improve water retention
 - d. Promote desertification
- vi. Which of the following is a mechanical method to control soil erosion?
 - a. Mulching
 - b. Terracing
 - c. Crop rotation
 - d. Agroforestry
- vii. What is the main purpose of agroforestry?
 - a. To grow only trees for timber
 - b. To combine trees, crops, and livestock for sustainable farming
 - c. To replace all crops with trees
 - d. To focus only on livestock farming
- viii. Which of the following is a problem in animal marketing?
 - a. High demand for livestock products
 - b. Dominance of middlemen
 - c. Excessive use of modern technology
 - d. Overproduction of fodder
- ix. Which dairy product is made by fermenting milk?
 - a. Butter
 - b. Cheese
 - c. Yogurt
 - d. Ghee
- x. Which of the following is a fancy bird?
 - a. Broiler Chicken
 - b. Silkie chicken
 - c. Layer hen
 - d. Turkey



MODEL PAPER OF AGRICULTURE SCIENCE FOR GRADE-9

SUBJECTIVE

Total Marks: 30

Class: 9th

Time Allowed: 1:45 hrs

Part - II

Q 2: Write the answers to any four (04) short questions.

(2 x 4 = 8)

- i. What is the role of poultry farming in Pakistan's economy?
- ii. What is the main challenge of farming in arid regions of Pakistan?
- iii. Why cotton is called "white gold"?
- iv. What is the role of market demand in determining cropping patterns?
- v. What is soil degradation?
- vi. How does mulching contribute to soil and water conversation?



Q 3: Write the answers to any four (04) short questions.

(2 x 4 = 8)

- i. What is the purpose of installing drainage systems in waterlogged soils?
- ii. What is the purpose of riparian buffers in agroforestry?
- iii. How does climate change affect fodder availability?
- iv. What are the benefits of value addition in dairy products?
- v. Why is proper feed storage important in poultry farming?
- vi. What is the role of vaccination in preventing poultry disease?

Part - III

Note: Attempt any two (02) long questions.

- Q. 4:** Describe the steps involved in the production of rice, from land preparation to post-harvest management. (07)
- Q. 5:** Discuss the causes of soil erosion, and describe agronomic and mechanical practices to control it. (07)
- Q. 6:** Explain the challenges faced by the dairy industry in Pakistan and suggest measures to overcome them. (07)

Punjab Education, Curriculum, Training & Assessment Authority

INSTRUCTIONS FOR PREPARATION OF EXAM PAPER OF FASHION DESIGNING FOR GRADE-9

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of Fashion Designing for Grade-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:



Part-I: Objective:	Q-1: 10 Multiple-Choice Questions (MCQs) will be developed from the entire content of the textbook. One MCQ will be asked each from chapter except chapter 5 from which two MCQs will be asked.	$(1 \times 10) = 10$
Part-II: Subjective:	This section will contain two short answer questions. Each short answer question will be asked from the exercises of the textbook. The detail is as follows: Q-2: 4 short answer questions have to be answered out of 6. The detail is as follows: - One short answer question should be asked from each of chapters 1, 2, 3 and 4. - Two short answer questions should be asked from chapter 5.	$(2 \times 4) = 8$
	Q-3: 4 short answer questions have to be answered out of 6. The detail is as follows: - One short answer question should be asked from each of chapters 6 and 8. - Two short answer questions should be asked from each of chapters 7 and 9.	$(2 \times 4) = 8$
Part-III: Subjective:	This section will contain three detailed questions and students have to attempt 2 questions carrying 7 marks each. Each detailed question will be asked from the exercises of the textbook. The detail is as follows: Q-4: One detailed question will be asked either from Chapter 1 or Chapter 2 or Chapter 3. Q-5: One detailed question will be asked either from Chapter 4 or Chapter 6 or Chapter 7. Q-6: One detailed question will be asked either from Chapter 5 or Chapter 8 or Chapter 9.	$(2 \times 7) = 14$

MODEL PAPER OF FASHION DESIGNING
FOR GRADE-9
Objective (Part-I)



Time Allowed: 15 mins.

Max. Marks: 10

Q. 1: Attempt all questions:

- (i) How does fashion help the economy?
 - a) No impact on the economy
 - b) Creates jobs in design and retail
 - c) Only benefits rich designers
 - d) Only affects celebrities
- (ii) Hue refers to which color family
 - a) red, blue, green
 - b) red, blue, yellow
 - c) red, blue, purple
 - d) red, blue, pink
- (iii) Rhythm in design creates a sense of:
 - a) stability
 - b) movement and flow
 - c) randomness
 - d) proportion
- (iv) What kind of headdresses they used to wear?
 - a) large and decorative
 - b) small and delicate
 - c) soft and luxurious
 - d) none of the above
- (v) What is the meaning of Phulkari?
 - a) land of flowers
 - b) flower work
 - c) a type of color
 - d) a part of the flower
- (vi) Which is the best description for the technique of Ajrak?
 - a) block printed geometric shapes
 - b) tie and die abstract shapes
 - c) needlework in floral shapes
 - d) freehand drawing
- (vii) What does anatomy help artists achieve?
 - a) abstract shapes
 - b) realistic figures
 - c) garment colours
 - d) avoids movement
- (viii) The Peter Pan collar is best known for:
 - a) its sharp and pointed shape
 - b) its stand-up, stiff look
 - c) its rounded and soft edges
 - d) its long, folded-back lapels
- (ix) Which of the following is an animal-based fiber?
 - a) polyester
 - b) cotton
 - c) silk
 - d) linen
- (x) Which tool is used to measure fabric accurately?
 - a) scissors
 - b) measuring tape
 - c) seam ripper
 - d) pin cushion

Subjective (Part-II)



Q2. Answer any four of the following short questions.

(2x4=8)

- (i) What does SDG stand for?
- (ii) Why is texture important in design?
- (iii) How does movement influence a composition?
- (iv) Which civilization had its influence on the Gandhara Civilization?
- (v) Define culture and craft.
- (vi) What type of cap or headgear is worn by the people of Gilgit Baltistan?

Q3. Answer any four of the following short questions.

(2x4=8)

- (i) Name three basic geometric shapes used in drawing.
- (ii) How many heads tall is a fashion figure, and why is it elongated?
- (iii) Identify and describe three common sleeve styles.
- (iv) Why is cotton important for Pakistan's economy?
- (v) How does a backstitch differ from a running stitch?
- (vi) Name any two natural and synthetic fabrics?

Subjective (Part-II)

Attempt any two questions in detail from the following.

(2x7=14)

- Q4.** What are some real-world examples of designs that showcase an innovative use of the elements of design?
- Q5.** How does using perspective create a sense of depth in a drawing, and what are the different types of perspective?
- Q6.** Identify and compare different types of cotton fabrics. Discuss the uses of each type in everyday clothing and textiles.

Punjab Education, Curriculum, Training & Assessment Authority

INSTRUCTIONS FOR PREPARATION OF EXAM PAPER OF INFORMATION & COMMUNICATION TECHNOLOGIES (ICT) FOR GRADE-9

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of Information & Communication Technologies (ICT) for Grade-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:



Part-I: Objective:	Q-1: 10 Multiple Choice Questions (MCQs) will be developed from the entire content of the text book. Two MCQs will be asked from each of Chapters 1, 2, 4, and 6, while one MCQ will be asked from each of Chapters 3 and 5.	$1 \times 10 = 10$
Part-II: Subjective:	This section will contain two short answer questions. Each short answer question will be asked from the exercises of the textbook. The detail is as follows:	
	Q-2: 4 short answer questions have to be answered out of 6. The detail is as follows: Two short answer questions will be asked from each of chapter No. 1, 2 and 3.	$2 \times 4 = 8$
	Q-3: 4 short answer questions have to be answered out of 6. The detail is as follows: Two short answer questions will be asked from each of chapter No. 4, 5 and 6.	$2 \times 4 = 8$
Part-III: Subjective:	This section will contain three detailed questions and students have to attempt two questions carrying 7 marks each. Each detailed question should be asked from the exercises of the textbook. The detail is as follows: Q-4: One detailed question will be asked from Chapter 2. Q-5: One detailed question will be asked from Chapter 4. Q-6: One detailed question will be asked either from Chapter 5 or Chapter 6.	$2 \times 7 = 14$

**MODEL PAPER OF INFORMATION AND COMMUNICATION
TECHNOLOGIES (ICT) FOR GRADE-9
OBJECTIVE (PART-I)**



PECTAA
Transformation, Innovation & Excellence

Max. Marks: 10

Time Allowed: 15 mins

Multiple Choice Questions (MCQ)

Q#1: Choose the correct option:

(1×10=10)

- i. **What is the default file extension for a Microsoft Word Document?**
a. .pptx b. .txt c. .docx d. .xlsx
- ii. **CTRL+ Z in word and PowerPoint is used for:**
a. Save b. Copy c. Redo d. Undo
- iii. **In an Arduino sketch, which function runs only once when the program starts?**
a. Setup() b. loop() c. run() d. start()
- iv. **What is the multiplier for the color “Green” in the third band?**
a. 10 b. 100 c. 100,000 d. 1,000,000
- v. **Which Canva template category is best for designing educational or event announcements to put on walls?**
a. Whiteboard b. Video c. Poster d. Website
- vi. **Which language provides the structure for a webpage?**
a. CSS b. JavaScript c. HTML d. Python
- vii. **Which tag is used to create a hyperlink in an HTML document?**
a. <link> b. <h> c. <a> d. <href>
- viii. **What is purpose of using a 220-ohm resister in LED circuit?**
a. Increase Brightness b. Protect LED from extensive Current
c. Change LED color d. Make the circuit faster
- ix. **Which AI tool is commonly used for grammar and spelling correction?**
a. ChatGPT b. Grammarly c. QuillBot d. DALL.E
- x. **Which AI tool can generate image from text description?**
a. Canva b. DALL.E c. QuillBot d. Zapier

**MODEL PAPER OF INFORMATION AND COMMUNICATION
TECHNOLOGIES (ICT) FOR GRADE-9
SUBJECTIVE**

Max. Marks: 30

Time Allowed: 1:45 hrs

Subjective (PART-II)

Q#2: Write the answers to any four short questions.

(2×4=8)



- i. Differentiate between header and footer in MS-Word.
- ii. Define two ways to save a PowerPoint presentation.
- iii. What is the function of a resistor in an Arduino circuit?
- iv. What does the function `pinMode(13, OUTPUT);` do in an Arduino program?
- v. List three types of designs you can create with Canva.
- vi. Name two key design basics you should follow when making a poster.

Q#3: Write the answers to any four short questions.

(2×4=8)

- i. How can CSS classes be used to style multiple elements at once?
- ii. Write an HTML tag to display an image from a file named "photo.jpg"?
- iii. How can malware be prevented?
- iv. What is port forwarding?
- v. How does AI help in Speech-to-text generation?
- vi. How is AI used in the retail industry?

PART-III

Attempt any two long questions.

Q#4: What do you mean by Jumper Wires? Explain the different types of Jumper Wires. (07)

Q#5: Explain the steps to setup an online store on Daraz to sell handmade keychains. Include at least four steps. (07)

Q#6: What are the common software troubleshooting methods used when a computer fails to start properly? (07)

Punjab Education, Curriculum, Training & Assessment Authority

INSTRUCTIONS FOR PREPARATION OF EXAM PAPER OF COMMUNICATION SKILLS & PERSONAL GROOMING FOR GRADE-9

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of Communication Skills & Personal Grooming for Grade-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:



Part-I: Objective:	Q-1: 10 Multiple Choice Questions (MCQs) will be developed from the entire content of the textbook. One MCQ will be asked from each chapter except chapter 5 from which two MCQs will be asked.	1 × 10 = 10
Part-II: Subjective:	This section will contain two short answer questions. Each short answer question will be asked from the exercises of the textbook. The detail is as follows: Q-2: 4 short answer questions have to be answered out of 6. The detail is as follows: • One short answer question should be asked each from chapters 1, 2, 3 and 4. • Two short answer questions should be asked from chapter 5.	2 × 4 = 8
	Q-3: 4 short answer questions have to be answered out of 6. The detail is as follows: • One short answer question should be asked each from chapters 7 and 8. • Two short answer questions should be asked each from chapters 6 and 9.	2 × 4 = 8
Part-III: Subjective:	This section will contain three detailed questions and students have to attempt two questions carrying 7 marks each. Each detailed question will be asked from the exercises of the textbook. The detail is as follows: Q-4: One detailed question will be asked either from Chapter 1 or Chapter 2 or Chapter 3. Q-5: One detailed question will be asked either from Chapter 4 or Chapter 5 or Chapter 6. Q-6: One detailed question will be asked either from Chapter 7 or Chapter 8 or Chapter 9.	2 × 7 = 14

MODEL PAPER OF COMMUNICATION SKILLS AND PERSONAL GROOMING FOR GRADE-9

OBJECTIVE (PART-I)

Time Allowed: 15 mins.

Max. Marks: 10

Q. 1: Multiple Choice Questions:

- (i) Which type of communication follows established rules and protocols?
- (a) Non verbal (b) Written communication
- (c) formal communication (d) Informal communication
- (ii) Which means expressing your ideas in a way that is easy to understand and free form complicated language?
- (a) Empathy (b) Clarity
- (c) Consciousness (d) Paraphrasing
- (iii) Which of the following may be an example of haptics?
- (a) Smiling (b) Shaking hands
- (c) Maintaining eye contact (d) Leaning forward
- (iv) Which part of speech connects words, phrases, or clauses?
- (a) Preposition (b) Conjunction
- (c) Interjection (d) Article
- (v) Which type of communication involves expressing your thoughts and needs in a clear, direct and respectful way?
- (a) Assertive communication (b) Passive communication
- (c) Aggressive communication (d) Passive- aggressive communication
- (vi) We can build self-confidence by:
- (a) setting small goals (b) seeking approval
- (c) avoiding challenges (d) ignoring weaknesses
- (vii) The primary purpose of using sunscreen daily is to:
- (a) protect skin from UV rays (b) improve skin texture and tone
- (c) keep the skin moisturized (d) remove acne and freckles
- (viii) A key element of dining etiquette in formal settings is:
- (a) speaking loudly (b) using the table as one like
- (c) using the proper cutlery (d) ignoring the table setting
- (ix) Which manners help to build a cooperative and respectful atmosphere where everyone feels valued and motivated?
- (a) Professional etiquettes (b) Greeting
- (c) First impression (d) Good workplace manners
- (x) One of the risks associated with irresponsible internet usage is:
- (a) data breaches (b) increased followers
- (c) more social media likes (d) faster internet speed



SUBJECTIVE (PART-II)

Q2. Answer any four of the following short questions:

(2 × 4 = 8)



- (i) What is encoding and decoding a message?
- (ii) How can you review your communicative sentences?
- (iii) How can facial expressions impact a conversation?
- (iv) Explain the difference between an adjective and an adverb.
- (v) How does negative self-talk impact self-confidence.
- (vi) Differentiate between assertive and aggressive communication.

Q3. Answer any four of the following short questions:

(2 × 4 = 8)

- (i) Why is personal hygiene important for overall health?
- (ii) What are the primary components of a basic skincare routine?
- (iii) What are the key elements of dining etiquette in formal settings?
- (iv) Explain the concept of non-verbal communication and give one example.
- (v) What are some examples of ethical practices when using digital content?
- (vi) Why should you be cautious about engaging in online conflicts?

SUBJECTIVE (PART-III)

Attempt any two questions in detail from the following:

(2 × 7 = 14)

- Q-4.** Discuss the various components of non-verbal communication and explain how they interact to create meaning.
- Q-5.** Write an email to your friend regarding examination.
- Q-6.** Explain the importance of maintaining a responsible and ethical digital presence.

Punjab Education, Curriculum, Training & Assessment Authority

Pairing Scheme / Instructions for Preparation of Exam Paper of Physics-Tech for Class-9

The paper of Physics-Tech for Grade-9 will consist of 40 marks.
Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:



Part-I: Objective:	Q-1: 10 Multiple Choice Questions (MCQs) will be developed from the entire content of the textbook. Two MCQs will be asked from chapters 4 and 6 each, and one MCQ will be asked from chapters 1, 2, 3, 5, 7 and 8 each.	(1 × 10) = 10
Part-II: Subjective:	This section will contain two short answer questions. Each short answer question will be asked from the exercises of the textbook. The detail is as follows: Q-2: Four (4) short answer questions have to be answered out of 6. The detail is as follows: Two (02) short answer questions should be asked from chapters 3 and 4 each and one short answer question will be asked from chapters 1 and 2 each.	(2 × 4) = 8
	Q-3: Four (4) short answer questions have to be answered out of 6. The detail is as follows: Two (2) short answer questions should be asked from chapters 5 and 6 each and one short answer question will be asked chapters 7 and 8 each.	(2 × 4) = 8
Part-III: Subjective:	This section will contain three detailed questions and students have to attempt two questions carrying 7 marks each. Each detailed question will be asked from the exercises of the textbook. The detail is as follows: Q-4: One detailed question will be asked from chapters 1, 2 and 3 each. Q-5: One detailed question will be asked from chapters 4 and 5 each. Q-6: One detailed question will be asked from chapters 6, 7 and 8 each.	(2 × 7) = 14

Note: In part-III, each question will consist of two parts. Part (a) may be asked from any chapter. Part (b) will be asked from different chapters (not from the same chapter as Part (a)). Part (a) will carry 3 marks while Part (b) will carry 4 marks.

MODEL PAPER OF PHYSICS-TECH FOR GRADE-9

Objective (Part-I)

وقت: 15 منٹ

کل نمبر: 10

Time allowed: 15 Mins.

Max. Marks: 10

نوٹ: ہر سوال کے چار ممکنہ جوابات A، B، C اور D دیے گئے ہیں۔ جو انتخاب آپ کے خیال میں درست ہے، اس سوال کے سامنے والے دائرے کو مار کر یا پین کی سیاہی سے بھریں۔ دو یا دو سے زیادہ دائروں کو کاٹنے یا بھرنے کی صورت میں جواب غلط تصور ہو گا۔

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with marker or pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

(i) درج ذیل میں سے کون سی مقدار غیر طبیعی مقدار ہے؟

(i) Which one is a non-physical quantity?

(a) Distance

فاصلہ

(b) Density

دبستگی

(c) Colour

رنگ

(d) Temperature

ٹمپریچر

(ii) ایک گیند کسی ٹاور پر سے گرایا گیا ہے۔ پہلے ایک سیکنڈ میں اس کا طے کردہ فاصلہ ہو گا:

(ii) A ball is dropped from the top of a tower, the distance covered by it in the first second is:

(a) 5 m

(b) 10 m

(c) 50 m

(d) 100 m

(iii) جب ہم ایک پتھر کو پاؤں سے ٹھوکر مارتے ہیں تو ہمیں چوٹ لگتی ہے۔ اس کی وجہ ہے:

(iii) When we kick a stone, we get hurt. This is due to:

(a) Inertia

انرشیا

(b) Velocity

ولاسٹی

(c) Momentum

مومینٹم

(d) Reaction

رد عمل

(iv) ایک ذرے پر ایک وقت 3 اور 4 نیوٹن کی دو فورسز لگ رہی ہیں۔ ذرے پر حاصل فورس ہو گی:

(iv) A particle is simultaneously acted upon by two forces of 4 and 3 newtons. The net force on the particle is:

(a) 1 N

(b) between 1 N and 7 N

(c) 5 N

(d) 7 N

(v) ایک سلنڈر اپنے گول پینڈے کے بل پڑا ہوا ہے۔ یہ:

(v) A cylinder resting on its circular base is in:

(a) Stable equilibrium

قیام پذیر توازن

(b) Unstable equilibrium

غیر قیام پذیر توازن

(c) Neutral equilibrium

نیوٹرل توازن

(d) None of these

ان میں سے کوئی بھی نہیں



(vi) کسی جسم کا مومینٹم اگر دو گنا ہو جائے تو اس کی کائی نیٹک انرجی کتنی ہو گی؟

(vi) If the magnitude of momentum of an object is doubled; the kinetic energy of the object will:

- (a) double دو گنی (b) increase to four times چار گنا ہو جائے گی
(c) reduce to one-half آدھی رہ جائے گی (d) remain the same اتنی ہی رہ جائے گی

(vii) 2 اور 3 مربع میٹر ایریا کی دو دھاتی پلیٹیں ایک مائع کے اندر ایک جتنی گہرائی میں رکھی گئی ہیں۔ دونوں پلیٹوں پر پریشر میں نسبت ہو گی:

(vii) Two metal plates of area 2 and 3 square metre are placed in a liquid at the same depth. The ratio of pressures on the two plates is:

- (a) 1:1 (b) $\sqrt{2} : \sqrt{3}$
(c) 2:3 (d) 4:9

(viii) فضا ایک مستطیلی سطح پر کتنی فورس ڈالتی ہے، اگر مستطیل کی لمبائی 50 سینٹی میٹر اور چوڑائی 40 سینٹی میٹر ہے، جبکہ فضائی پریشر 100 kPa ہے۔

(viii) What is the force exerted by the atmosphere on a rectangular-shaped surface of length 50 cm and breadth 40 cm? The atmospheric pressure is 100 kPa.

- (a) 20 kN (b) 100 kN
(c) 200 kN (d) 500 kN

(ix) کون سا ٹمپریچر سیلیسیس اور فارن ہائیٹ پر ایک ہی ہوتا ہے؟

(ix) The temperature which has the same value on Celsius and Fahrenheit scale is:

- (a) -40 (b) +40
(c) +45 (d) -45

(x) کسی میٹریل کو میگنیٹ بنانے کا ایک عام طریقہ ہے:

(x) A common method used to magnetise a material is:

- (a) stroking رگڑنا
(b) hitting ضرب لگانا
(c) heating گرم کرنا



(d) placing inside a solenoid having AC ایسی سولی نائڈ کے اندر رکھنا جس میں سے اے سی کرنٹ گزر رہا ہو

Subjective Type (Part-II)



وقت: 1:45 گھنٹے

کل نمبر: 30

Time allowed: 1:45 Hours

Max. Marks: 30

2. کوئی سے چار (04) سوالات کے مختصر جوابات لکھیے۔

Q-2. Write short answers to any four (04) questions. (2x4=8)

- (i) کسی مقدار کی پیمائش کے لیے ایک یونٹ مقرر کرنا کیوں ضروری ہے؟
- (ii) Why do we need a standard unit for measurement?
- (iii) سکالر اور ویکٹر مقداروں کی پانچ پانچ مثالیں دیں۔
- (iv) Give 5 examples each for scalar and vector quantities?
- (v) کسی شے کی ٹرمینل ولاسٹی کی تعریف کریں۔
- (vi) Define terminal velocity of an object.
- (vii) تصور کریں کہ جب ہر شے میں فرکشن ختم ہو جائے تو روزمرہ زندگی کا منظر کیا ہو سکتا ہے؟
- (viii) Imagine that if friction vanishes suddenly from everything, then what could be the scenario of daily life activities?
- (ix) کسی فورس کے عمل کرنے والی لائن کیا ہوتی ہے؟
- (x) What is the line of action of a force?
- (xi) ایک کار دو مختلف ریڈیئس کے موڑوں سے ایک جتنی سپیڈ سے گزرتی ہے۔ کس نصف قطر والے موڑ میں اس پر زیادہ سینٹری فورس لگتی ہے؟ اپنے جواب کو ثابت کریں۔
- (xii) A car travels at the same speed around two curves with different radii. For which radius the car experiences more centripetal force? Prove your answer.

3. کوئی سے چار (04) سوالات کے مختصر جوابات لکھیے۔

Q-3. Write short answers to any four (04) questions. (2x4=8)

- (i) دوڑتی ہوئی خاتون سیڑھی پر چڑھتی ہے۔ اس دوران وہ 4500 J گرہائی میں پٹنل انرجی حاصل کر لیتی ہے۔ اگر وہ اس سیڑھی پر پہلے سے دو گنا سپیڈ سے دوڑتی ہوئی چڑھے تو وہ کتنی پٹنل انرجی حاصل کرے گی؟
- (ii) A woman runs up a flight of stairs. The gain in her gravitational potential energy is 4500 J. If she runs up the same stairs with twice the speed, what will be her gain in potential energy?
- (iii) کیا کسی جسم کی کائیٹک انرجی منفی ہو سکتی ہے؟
- (iv) Can the kinetic energy of a body ever be negative?
- (v) مائع کے پریشر اور مائع کی گہرائی کے درمیان کیا تعلق ہے؟
- (vi) What is the relationship between liquid pressure and the depth of the liquid?
- (vii) سپرنگ لوبے کی بجائے سٹیل سے بنائے جاتے ہیں۔ کیوں؟
- (viii) Springs are made of steel instead of iron. Why?
- (ix) کیا وجوہات ہیں کہ گیسیں نہ تو کوئی خاص والیوم رکھتی ہیں اور نہ خاص شکل؟
- (x) What is the reasons that gases have neither a fixed volume nor a fixed shape?
- (xi) میکینک لائنز آف فورسز کیا ہوتی ہیں؟
- (xii) میکینک لائنز آف فورسز کیا ہوتی ہیں؟

(Part-III)

نوٹ: کوئی سے دو (02) سوالات کے جوابات لکھیے۔

Note: Attempt any two (02) questions.

.4

(الف) SI میں ماخوذ یونٹس کی مثالیں دیں۔ ان کو بنیادی یونٹس سے کیسے اخذ کیا جاتا ہے؟ وضاحت کریں۔ (3)

Q-4. (a) Give three examples of derived units in SI. How are they derived from base units? Describe briefly.

(ب) لوہے کا ایک گولہ کسی ٹاور پر سے گرایا گیا ہے۔ یہ زمین پر 4 سیکنڈ میں پہنچتا ہے۔ (4)

(i) ٹاور کی بلندی معلوم کریں۔ (ii) گولے کی زمین سے ٹکراتے ہوئے ولاسٹی معلوم کیجیے۔

(b) An iron bob is dropped from the top of a tower. It reaches the ground in 4 seconds. Find: (i) the height of the tower. (ii) the velocity of the ball as it strikes the ground.

.5

(الف) توازن کی دو شرائط بیان کریں اور ان کی وضاحت کریں۔ (3)

Q-5. (a) State and explain two conditions of equilibrium.

(ب) 10 کلو گرام کا ایک باکس ایک ریپ یا سلوپ پر 80 نیوٹن کی فورس لگا کر 15 میٹر تک دھکیلا جاتا ہے۔ اگر باکس اس دوران 5 میٹر کی (4)

بلندی حاصل کرے تو اس سسٹم کی ایفی شینسی کیا ہوگی؟

(b) A box of mass 10 kg is pushed up along a ramp 15 m long with a force of 80 N. If the box rises up a height of 5 m, what is the efficiency of the system?

.6

(الف) تھرمیٹر کیا ہے؟ یہ کیسے پاپا جاتا ہے؟ مختصر طور پر شیٹے میں مرکری تھرمیٹر کو بیان کریں۔ (3)

Q-6. (a) What is temperature? How is it measured? Describe briefly a mercury in glass thermometer.

(ب) ایک ہائڈرولک پریس کے چھوٹے اور بڑے پیسٹنوں کے عرضی رقبے بالترتیب 10 cm^2 اور 100 cm^2 ہیں۔ چھوٹے پیسٹن پر کتنی (4)

فورس لگائی جائے کہ 4000 N وزنی کار کو اٹھایا جاسکے؟

(b) The area of cross-section of the small and large pistons of a hydraulic press is 10 cm^2 and 100 cm^2 respectively. What force should be exerted on the small piston in order to lift a car of weight 4000 N .



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Pairing Scheme / Instructions for Preparation of Exam Paper of Chemistry-Tech for Grade-9

The paper of Chemistry-Tech for Grade-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:



Part-I: Objective:	Q-1: 10 Multiple Choice Questions, one each from Chapter 1 to 10.	1 × 10 = 10																		
Part-II: Subjective:	Q-2: 4 short answer questions have to be answered out of 6. The detail is as follows: <table><tr><td>Chapter</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>No. of Short Questions per Chapter</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table>	Chapter	1	2	3	4	5	6	No. of Short Questions per Chapter	1	1	1	1	1	1	2 × 4 = 8				
	Chapter	1	2	3	4	5	6													
No. of Short Questions per Chapter	1	1	1	1	1	1														
	Q-3: 4 short answer questions have to be answered out of 6. The detail is as follows: <table><tr><td>Chapter</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr><tr><td>No. of Short Questions per Chapter</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td></tr></table>	Chapter	7	8	9	10	11	No. of Short Questions per Chapter	1	1	1	2	1	2 × 4 = 8						
Chapter	7	8	9	10	11															
No. of Short Questions per Chapter	1	1	1	2	1															
Part-III: Subjective:	This section will contain three questions bifurcated in two-part a & b (carrying 4 & 3 marks respectively) and students have to attempt 2 questions The detail is as follows: Q-6: <table><tr><td>Chapter</td><td>1</td><td>2</td></tr><tr><td>Part</td><td>a</td><td>b</td></tr></table> Q-7: <table><tr><td>Chapter</td><td>3</td><td>7</td></tr><tr><td>Part</td><td>a</td><td>b</td></tr></table> Q-8: <table><tr><td>Chapter</td><td>9</td><td>11</td></tr><tr><td>Part</td><td>a</td><td>b</td></tr></table>	Chapter	1	2	Part	a	b	Chapter	3	7	Part	a	b	Chapter	9	11	Part	a	b	2 × 7 = 14
Chapter	1	2																		
Part	a	b																		
Chapter	3	7																		
Part	a	b																		
Chapter	9	11																		
Part	a	b																		

MODEL PAPER OF MATRIC TECH CHEMISTRY-TECH FOR GRADE-9

Objective (Part-I)

Time Allowed: 15 Min.

Max. Marks: 10

نوٹ: ہر سوال کے چار ممکنہ جوابات A، B، C اور D دیے گئے ہیں۔ جو انتخاب آپ کے خیال میں درست ہے، اس سوال کے سامنے والے دائرے کو مار کر یا پین کی سیاہی سے بھریں۔ دو یا دو سے زیادہ دائروں کو کاٹنے یا بھرنے کی صورت میں جواب غلط تصور ہو گا۔

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle with marker or pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

(i) کون سا پولیمر انسان کا بنایا ہوا ہے؟

(i) The man-made polymer is:

- (a) Starch (b) Polystyrene (c) Protein (d) Cellulose

(ii) ایلمینٹس کے تیسرے شیل میں زیادہ سے زیادہ کتنے الیکٹرونز موجود ہو سکتے ہیں؟

(ii) How many electrons can be accommodated at the most in the third shell of the elements?

- (a) 8 (b) 18
(c) 10 (d) 32

(iii) کس آئوٹک کمپاؤنڈ کا میلٹنگ پوائنٹ سب سے زیادہ ہو گا؟

(iii) Which ionic compound has the highest melting point?

- (a) NaCl (b) KCl
(c) LiCl (d) RbCl

(iv) ایلومینیم آکسائیڈ (Al_2O_3) کے 204 گرام میں Al کا ماس کتنا ہو گا؟

(iv) What is the mass of Al in 204 g of aluminium oxide, Al_2O_3 ?

- (a) 26 g (b) 27 g
(c) 54 g (d) 108 g

(v) کون سا ہائیڈروجن ہیلائیڈ ٹھنڈی حالت میں ری ایکشن کے نتیجے میں بنتا ہے؟

(v) Formation of which hydrogen halide from the elements is an endothermic reaction?

- (a) HCl (b) HF
(c) HBr (d) HI

(vi) ہوا میں موجود کونسی گیسیں بجلی چمکنے سے ری ایکشن کرتی ہیں؟

(vi) Predict which components of the atmosphere react in the presence of lightening?

- (a) N_2 and H_2O (b) O_2 and H_2O
(c) CO_2 and O_2 (d) N_2 and O_2

(vii) کیلشیم ہائیڈروآکسائیڈ کو پانی میں حل کریں تو کتنے ہائیڈروآکسائیڈ آئنز بناتا ہے؟

(vii) How many hydroxide ions, calcium hydroxide will release in water?

- (a) 1 (b) 2
(c) 3 (d) 0

(viii) نائٹروجن کا ایٹم اپنے بیرونی شیل میں کتنے الیکٹرونز حاصل کر سکتا ہے؟

How many electrons can nitrogen accept in its outermost shell?

- (a) 2 (b) 3
(c) 4 (d) 5



(ix) کون سا ہیلوجن ایسڈ عام درجہ حرارت پر ان مستحیل ہے؟

(ix) Which halogen acid is unstable at room temperature?

- (a) HCl (b) HF
(c) HBr (d) HI

(x) کون سی گیسیں گرین ہاؤس ایفیکٹ کا موجب بنتی ہیں؟

(x) Which gases are responsible for greenhouse effect?

- (a) SO_2 , NO_2 (b) NO_2 , CO
(c) CO_2 , CH_4 (d) O_2 , N_2

Subjective Type (Part-II)

Time allowed: 1.45 Hrs.

Max. Marks: 30

Q. 2: Write short answers to any four (04) questions:

کوئی سے چار (4) سوالات کے مختصر جوابات لکھیے:

(2 × 4 = 8)

- (i) What is the importance of graphite?
گرافائٹ کیوں اہم ہے؟ (i)
- (ii) How can an atom absorb and evolve energy?
ایک ایٹم کس طرح انرجی جذب اور خارج کرتا ہے؟ (ii)
- (iii) Why HF is a liquid while HCl is a gas?
HF ایک مائع ہے اور HCl ایک گیس، ایسا کیوں ہے؟ (iii)
- (iv) Why HF is a liquid while HCl is a gas?
1.5 گرام پانی میں کتنے مالیکیولز ہوں گے؟ (iv)
- (v) How many molecules are present in 1.5 g H₂O?
بانڈ کا ٹوٹنا ایک اینڈو تھرمل عمل کیوں ہے؟ (v)
- (vi) Why is breaking of a bond an endothermic process?
ایٹھائل اسیٹٹ کو کمرشل پیمانے پر کیسے تیار کرتے ہیں؟ (vi)
- (vii) How ethyl acetate is prepared commercially?

Q. 3: Write short answers to any four (04) questions:

کوئی سے چار (4) سوالات کے مختصر جوابات لکھیے:

(2 × 4 = 8)

- (i) How does calcium metal react with dilute H₂SO₄?
کیلشیم میٹل کس طرح سے سفیورک ایسڈ سے ری ایکٹ کرتی ہے؟ (i)
- (ii) What is the significance of the word periodic?
لفظ جیورڈک کی کیا اہمیت ہے؟ (ii)
- (iii) Why does iodine exist in the solid state at room temperature?
آئیوڈین عام درجہ حرارت پر ٹھوس حالت میں کیوں پائی جاتی ہے؟ (iii)
- (iv) How does acid rain affect forest?
ایسڈ رین جنگلات پر کیسے اثر انداز ہوتی ہے؟ (iv)
- (v) Differentiate between an organic and inorganic compound.
آرگینک اور ان آرگینک کیا ونڈز کا موازنہ کریں۔ (v)
- (vi) What is the main objective of environmental education?
ماحولیاتی تعلیم کا سب سے اہم مقصد کیا ہے؟ (vi)



Subjective (Part-III)

نوٹ: کوئی سے دو سوالات کے جوابات لکھیے۔

Note: Attempt any two questions.

- Q. 4:** (a) Define solubility of a solute. How does the solubility of solute change with the increase in temperature? (4)

(الف) کسی سولیوٹ کی سولوبیلیٹی کی تعریف کریں۔ درجہ حرارت بڑھانے سے مختلف اشیاء کی سولوبیلیٹی پر کیا فرق پڑتا ہے؟

- (b) Describe how electron was discovered. (3)

(ب) الیکٹران کیسے دریافت ہوا تفصیل سے لکھیں۔

- Q. 5:** (a) Compare the properties of ionic and covalent compounds (any four). (4)

(الف) آئونک اور کوویلینٹ کمپاؤنڈز کی خصوصیات کا تقابلی جائزہ لیں (کوئی چار)۔

- (b) Differentiate between an acid and its conjugate base. (3)

(ب) ایسڈز اور اس کے کانجوگیٹ بیس میں کیا فرق ہے؟

- Q. 6:** (a) Compare the properties of metals and non-metals (any four). (4)

(الف) میٹلز اور نان میٹلز کی خصوصیات کا موازنہ کریں (کوئی چار)۔

- (b) Describe the importance of organic compounds in daily life. (3)

(ب) روزمرہ زندگی میں آرگینک کمپاؤنڈز کی اہمیت کی وضاحت کریں۔



Punjab Education, Curriculum, Training & Assessment Authority

Pairing Scheme / Instructions for Preparation of Exam Paper of Biology-Tech for Grade-9

The paper of Biology-Tech for Grade-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:



Objective (Part-I)

Q.1: MULTIPLE CHOICE QUESTIONS

10 Marks (1 mark each)

Chapter # 1	1 MCQ
Chapter # 2	1 MCQ
Chapter # 3	1 MCQ
Chapter # 4	1 MCQ
Chapter # 5	1 MCQ
Chapter # 6	1 MCQ
Chapter # 7	1 MCQ
Chapter # 8	2 MCQs
Chapter # 9	1 MCQs

Part-II: Subjective:	Q-2: 4 short answer questions have to be answered out of 6. The detail is as follows: <table><tr><td>Chapter</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>No. of Short Questions per Chapter</td><td>1</td><td>2</td><td>2</td><td>1</td></tr></table>	Chapter	1	2	3	4	No. of Short Questions per Chapter	1	2	2	1	2 × 4 = 8								
Chapter	1	2	3	4																
No. of Short Questions per Chapter	1	2	2	1																
	Q-3: 4 short answer questions have to be answered out of 6. The detail is as follows: <table><tr><td>Chapter</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>No. of Short Questions per Chapter</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td></tr></table>	Chapter	5	6	7	8	9	No. of Short Questions per Chapter	1	1	1	2	1	2 × 4 = 8						
Chapter	5	6	7	8	9															
No. of Short Questions per Chapter	1	1	1	2	1															
Part-III: Subjective:	This section will contain three questions bifurcated in two-part a & b (carrying 4 & 3 marks respectively) and students have to attempt two questions The detail is as follows: Q-4: <table><tr><td>Chapter</td><td>1</td><td>3</td></tr><tr><td>Part</td><td>a</td><td>b</td></tr></table> Q-5: <table><tr><td>Chapter</td><td>6</td><td>7</td></tr><tr><td>Part</td><td>a</td><td>b</td></tr></table> Q-6: <table><tr><td>Chapter</td><td>8</td><td>9</td></tr><tr><td>Part</td><td>a</td><td>b</td></tr></table>	Chapter	1	3	Part	a	b	Chapter	6	7	Part	a	b	Chapter	8	9	Part	a	b	2 × 7 = 14
Chapter	1	3																		
Part	a	b																		
Chapter	6	7																		
Part	a	b																		
Chapter	8	9																		
Part	a	b																		

MODEL PAPER OF BIOLOGY-TECH FOR GRADE-9

Objective (Part-I)



Time Allowed: 15 Mins.

Max. Marks: 10

نوٹ: ہر سوال کے چار ممکنہ جوابات A، B، C اور D دیے گئے ہیں۔ جو انتخاب آپ کے خیال میں درست ہے، اس سوال کے سامنے والے دائرے کو مار کر یا پین کی سیاہی سے بھریں۔ دو یا دو سے زیادہ دائروں کو کاٹنے یا بھرنے کی صورت میں جواب غلط تصور ہو گا۔

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle with marker or pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

(i) سیلز کا ایسا گروہ جو ایک جیسا فعل ادا کرے کہلاتا ہے:

(i) The groups of cells that have similar functions are called:

- | | | | |
|-------------|-------|---------------|-----------|
| (a) Tissues | نشوز | (b) Organs | آرگنز |
| (c) Systems | سسٹمز | (d) Molecules | مالیکیولز |

(ii) ایک یونی سیلولر فنجائی کی مثال ہے:

(ii) The example of an unicellular fungi is:

- | | | | |
|--------------|-------|-----------|------|
| (a) Mold | مولڈ | (b) Rust | رسٹ |
| (c) Mushroom | مشروم | (d) Yeast | پیسٹ |

(iii) سائٹوپلازم میں پروٹین بننے کی جگہ کہلاتی ہے:

(iii) In cytoplasm the sites for protein synthesis are called:

- | | | | |
|----------------|----------|--------------|----------|
| (a) Stroma | سٹروما | (b) Ribosome | رائبوسوم |
| (c) Chromosome | کروموسوم | (d) Cristae | کرسٹی |

(iv) سیل سائیکل کی کونسی فیز میں ہر کروموسوم کا DNA ڈبل ہو جاتا ہے:

(iv) In which phase of cell cycle, DNA of each chromosome is replicated:

- | | | | |
|--------------|--------|-------------|-------|
| (a) G1 Phase | G1 فیز | (b) S Phase | S فیز |
| (c) G2 Phase | G2 فیز | (d) M Phase | M فیز |

(v) معدے کی دیوار میں موجود اپنی تھیلیل ٹشو کس کی پیداوار کا ذمہ دار ہوتا ہے:

(v) The epithelial tissue in stomach as well is responsible for producing:

- | | | | |
|-----------|------------|------------------|----------|
| (a) Mucus | میوکس | (b) Pepsinogen | پیسینوجن |
| (c) HCl | ایچ سی ایل | (d) All of these | یہ تمام |

(vi) اینزائم جو ڈشز کی صفائی کے لیے استعمال ہوتا ہے کہلاتا ہے:

(vi) The enzyme used in dish washing is called:

- | | | | |
|-------------|---------|--------------|-----------|
| (a) Trypsin | ٹریپسن | (b) Protease | پروٹی ایز |
| (c) Amylase | ایمالیز | (d) Lipase | لائیپیز |

(vii) فوٹو سنتھیز کا لائٹ ری ایکشن جس جگہ وقوع پزیر ہوتا ہے:

(vii) Light reaction of photosynthesis occur in:

- | | |
|-------------------------------|-------------------------------|
| (a) Plasma membrane | پلازما ممبرین |
| (b) Cytoplasm of cell | سیل کے سائٹوپلازم |
| (c) Thylakoids of Chloroplast | کلوروپلاسٹ کے تھیلاکائیڈس میں |
| (d) Stroma of Chloroplast | کلوروپلاسٹ کے سٹروما میں |



(viii) پودوں کی سطح سے بخارات کی شکل میں پانی کا اخراج کہلاتا ہے:

(viii) The loss of water in the form of vapours from plant surface is called:

- | | | | |
|-------------------|--------------|----------------------|------------------|
| (a) Transpiration | ٹرانسپائریشن | (b) Respiration | ریسپائریشن |
| (c) Osmosis | آسموسس | (d) Active Transport | ایکٹیو ٹرانسپورٹ |

(ix) سکیولینٹ آرگنز ہوتے ہیں:

(xi) Succulent organs are present in:

- | | | | |
|----------------|-------------|-----------------|---------------|
| (a) Xerophytes | زیر وفائنٹس | (b) Hydrophytes | ہائیڈروفائنٹس |
| (c) Mesophytes | میزوفائنٹس | (d) Halophytes | ہیلوفائنٹس |

(x) ٹیوبر کی مثال ہے:

(x) An example of Tuber is:

- | | | | |
|------------|------|------------|-------|
| (a) Potato | آلو | (b) Ginger | ادریک |
| (c) Onion | پیاز | (d) Garlic | لہسن |



PECTAA
Transformation, Innovation & Excellence
Max. Marks: 30

Subjective Type (Part-II)

Time allowed: 1.45 Hrs.

Q. 2: Write short answers to any four (04) questions:

کوئی سے چار (4) سوالات کے مختصر جوابات لکھیے: $(2 \times 4 = 8)$

- (i) سمندری حیاتیات کے مطالعہ کے دو فوائد بیان کریں۔
- (i) What are the benefits of studying marine biology?
- (ii) کسی علاقے کی حیاتیاتی تنوع کو کس طرح ناپا جاتا ہے؟
- (ii) How biodiversity of an area is measured?
- (iii) حیاتیاتی تنوع کے دو اہداف لکھیں۔
- (iii) Write two aims of biodiversity
- (iv) ایسیلوئر کی تعریف کیجیے۔
- (iv) Define the terms acellular
- (v) پروکیوٹک اور یوکیوٹک خلیوں میں فرق بیان کریں۔
- (v) Differentiate between Prokaryotic and Eukaryotic cells
- (vi) میوسس میں کراسنگ اوور اور جینیاتی تنوع میں کس طرح حصہ ڈالتی ہے؟
- (vi) How does crossing over contribute to genetic variation in meiosis?

Q. 3: Write short answers to any four (04) questions:

کوئی سے چار (4) سوالات کے مختصر جوابات لکھیے: $(2 \times 4 = 8)$

- (i) سب سے چھوٹے اور سب سے بڑے سطح تنظیم کا نام لکھیں۔
- (i) Name the smallest and largest level of organization.
- (ii) اینزائم کی ایکٹو سائٹ کا کردار لکھیے۔
- (ii) Write the role of active site of enzyme
- (iii) این ایر ایک ریپائریشن کی تعریف کریں۔
- (iii) Define an anaerobic respiration
- (iv) زائیلیم اور فلوئیم ٹشوز کا حل لکھیے۔
- (iv) Write the function of xylem and phloem tissues.
- (v) پھول میں ریسپیکٹل کے بارے میں آپ کیا جانتے ہیں۔
- (v) What do you know about receptacle in a flower?
- (vi) پولی نیشن کی تعریف کریں۔
- (vi) Define pollination.

Subjective Type (Part-III)

نوٹ: کوئی سے دو سوالات کے جوابات لکھیے۔

Note: Attempt any two questions.

(2 × 7 = 14)

Q. 4: (a) What is a hypothesis? Write for characteristics of good hypothesis. **(4)**

(الف) ہائی پوتھیس کیا ہے؟ ایک اچھے ہائی پوتھیس کی چار خوبیاں لکھیے۔

(b) Describe the three layers of plant cell wall. **(3)**

(ب) پلانٹ سیل وال کی تین تہیں بیان کریں۔

Q. 5: (a) Write down any three characteristics of enzymes. **(4)**

(الف) اینزائمز کی کوئی سی تین خصوصیات لکھیے۔

(b) Describe the key events of light reactions of photosynthesis. **(3)**

(ب) فوٹوسینتھس سبز کے لائٹ ری ایکشن کے کوئی سے تین اہم مراحل بیان کریں۔

Q. 6: (a) Describe the Pressure flow mechanism in plants. **(4)**

(الف) پودوں میں پریشر فلو میکانزم بیان کریں۔

(b) Describe advantages and disadvantages of vegetative propagation in plants. **(3)**

(ب) پودوں میں وجیٹیو پراسپیگیشن کے فوائد اور نقصانات بیان کریں۔



Punjab Education, Curriculum, Training & Assessment Authority

Pairing Scheme / Instructions for Preparation of Exam Paper of General Science-Tech for Grade-9

The paper of General Science-Tech for Grade-9 will consist of 50 marks.

Duration of the paper will be 2 hours.

(Objective Type = 20 minutes + Subjective Type = 1:40 hours)

Objective Type = 12 marks + Subjective Type = 38 marks.

The paper will be made as per following details:

Part-I: Objective:	Q-1: 12 Multiple Choice Questions will be given. MCQs will be developed from the entire content of the textbook from Chapter 1 to 6. 2 MCQs will be given from each of chapter 1 to 6.	(1 × 12) = 12																		
Part-II: Subjective:	This section will contain two short answer questions. These short answer questions will be given from the content of the textbook. The detail is as follows: Q-2: Four short answer questions have to be answered out of six. The detail is as follows: Two short answer questions will be asked each from chapter 1, 2 and 3.	(4 × 3) = 12																		
	Q-3: Four short answer questions have to be answered out of six. The detail is as follows: Two short answer questions will be asked each from chapter 4, 5 and 6.	(4 × 3) = 12																		
Part-III: Subjective:	This section will contain three detailed questions bifurcated in two-parts a & b (carrying 4 & 3 marks respectively) and students have to attempt two questions. The detail is as follows: Q-4: <table border="1" data-bbox="555 1552 935 1675"> <tr> <td>Chapter No.</td><td>1</td><td>2</td></tr> <tr> <td>Part</td><td>a</td><td>b</td></tr> </table> Q-5: <table border="1" data-bbox="555 1724 935 1848"> <tr> <td>Chapter No.</td><td>3</td><td>4</td></tr> <tr> <td>Part</td><td>a</td><td>b</td></tr> </table> Q-6: <table border="1" data-bbox="555 1897 935 2020"> <tr> <td>Chapter No.</td><td>5</td><td>6</td></tr> <tr> <td>Part</td><td>a</td><td>b</td></tr> </table>	Chapter No.	1	2	Part	a	b	Chapter No.	3	4	Part	a	b	Chapter No.	5	6	Part	a	b	(2 × 7) = 14
Chapter No.	1	2																		
Part	a	b																		
Chapter No.	3	4																		
Part	a	b																		
Chapter No.	5	6																		
Part	a	b																		

MODEL PAPER OF GENERAL SCIENCE-TECH

FOR CLASS-9

Objective Type

Time allowed: 20 Min.

Max. Marks: 12

نوٹ: ہر سوال کے چار ممکنہ جوابات A، B، C اور D دیے گئے ہیں۔ جو انتخاب آپ کے خیال میں درست ہے، اس سوال کے سامنے والے دائرے کو مار کر یا پین کی سیاہی سے بھریں۔ دو یا دو سے زیادہ دائروں کو کاٹنے یا بھرنے کی صورت میں جواب غلط تصور ہوگا۔

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle with marker or pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

- (i) The name of famous book written by Al-Bairuni is:
- (a) Kitab-ul-Manazir (b) Al-Havi (c) Al-Shafa (d) Al-Qanoon-Fil-Tib
- (ii) The radius of Earth according to Al-Baruni is:
- (a) 6353 km (b) 5363 km (c) 6338 km (d) 3853 km
- (iii) Oxygen and nitrogen react to form:
- (a) Nitric acid (b) Nitrogen oxide (c) Nitrogen peroxide (d) Nitrate
- (iv) Which one among these is not an organic compound?
- (a) Proteins (b) Oil (c) Fats (d) Carbon dioxide
- (v) Which blood group is called universal recipient?
- (a) O (b) B (c) AB (d) A

(vi) Landsteiner divided human population in:

- (a) 2-groups 2 گروپس (b) 3-groups 3 گروپس
(c) 4-groups 4 گروپس (d) 5-groups 5 گروپس

(vii) وہ بیماری جو بچپن میں وٹامن ڈی کی کمی کے باعث پیدا ہوتی ہے؟

(vii) The disease which is caused in children due to vitamin D deficiency is:

- (a) Scurvy سکروی (b) T.B ٹی بی
(c) Rickets ریکٹس (d) Anemia اینیمیا

(viii) ایک گرام فیٹس سے حاصل کردہ توانائی ہوتی ہے:

(viii) The amount of energy gained from one gram of fats is:

- (a) 9.3 Kcal (b) 18 Kcal
(c) 27 Kcal (d) 36 Kcal

(ix) بی سی جی کا پہلا ٹیکہ بچوں کو جس عمر میں لگایا جاتا ہے وہ ہے:

(ix) The age of the child in which he is given first injection of BCG is:

- (a) First month ایک ماہ (b) Three-months تین ماہ
(c) At birth پیدائش پر (d) Nine months نو ماہ

(x) ڈی پی ٹی کی ویکسینیشن بچوں کو محفوظ رکھتی ہے:

(x) The D.P.T vaccination saves the child from:

- (a) Malaria ملیریا (b) Typhoid ٹائفائیڈ
(c) Tetanus تشنج (d) Hepatitis ہپاٹائٹس

کون سی گیس روشنی کی موجودگی میں کسی دوسری گیس سے مل کر بناتی ہے:

(xi) Which gas combine with some other gases in the presence of light to form smog? (xi)

- (a) Hydrogen ہائیڈروجن (b) Nitrogen نائٹروجن
(c) Nitrogen peroxide نائٹروجن پر آکسائیڈ (d) Oxygen آکسیجن

(xii) کسی علاقے میں رہنے والے کل ارکان کو کہتے ہیں:

(xii) The total number of persons living in an area is called.

- (a) Species سپیشیز (b) Population آبادی

Subjective Type (Part I)

Time allowed: 1.40 Hrs.

Max. Marks: 38

Q. 2: Write short answers to any four (04) questions:

(12) کوئی سے چار (4) سوالات کے مختصر جوابات لکھیے:

(i) ابن الہیثم کی کتابوں کے نام لکھیں۔ (i)

(i) Write names of books of Ibn-ul-Haitham.

(ii) ایگر پلچر کی تعریف کریں۔ (ii)

(ii) Define agriculture.

(iii) ریسیزیشن سے کیا مراد ہے؟ (iii)

(iii) What do you mean by respiration.

(iv) پانی کی کوئی سی تین خصوصیات لکھیں۔ (iv)

(iv) Write any three properties of water.

(v) ٹرانس جینک آرگنزمز سے کیا مراد ہے؟ (v)

(v) What are transgenic organisms?

(vi) ری سائیکلنگ کے چار فوائد لکھیں۔ (vi)

(vi) Write four important benefits of recycling.

Q. 3: Write short answers to any four (04) questions:

(12)

کوئی سے چار (4) سوالات کے مختصر جوابات لکھیے:

(i) انسولین کا کیا کردار ہے؟ (i)

(i) What is the role of insulin?

(ii) پچوٹری گلینڈ کا کیا کام ہے؟ (ii)

(ii) What is the function of pituitary gland?

(iii) ملیریا کس طرح پھیلتا ہے؟ (iii)

(iii) How does malaria spread?

(iv) ڈیلیریم کی علامات تحریر کریں۔ (iv)

(iv) Write the symptoms of delirium.

(v) گرین ہاؤس کے ماحول پر کوئی سے دو اثرات تحریر کریں۔ (v)

(v) Write any two greenhouse effects on environment.

(vi) وائلڈ لائف کو ہم کس طرح محفوظ بنا سکتے ہیں؟ (vi)

(vi) How can we conserve wild life?

Subjective Type (Part II)

نوٹ: کوئی سے دو سوالات کے جوابات لکھیے۔

Note: Attempt any two questions.

Q. 4: (a) What is the contribution of Dr. Samar Mubarak Mand?

(4)

(الف) ڈاکٹر ثمر مبارک مند کی خدمات تحریر کریں۔

(b) Explain how water is a universal solvent.

(3)

(ب) پانی ایک یونیورسل سالونٹ ہے، وضاحت کریں۔

Q. 5: (a) What is genetic engineering? How can it help in improving agriculture and livestock? (4)

(الف) جینیٹک انجینئرنگ سے کیا مراد ہے؟ یہ کس طرح زراعت اور لائیو سٹاک کی بہتری میں مددگار ہے؟

(b) What is balanced diet? Describe the balanced diet for infants, pregnant and lactating woman. (3)

(ب) متوازن خوراک سے کیا مراد ہے؟ شیر خوار بچوں، حاملہ اور دودھ پلانے والی خواتین کی متوازن خوراک بیان کریں۔

Q. 6: (a) What are the effects of smoke and smoking? (4)

(الف) تمباکو اور تمباکو نوشی کے نقصانات بتائیں۔

(b) What is meant by water pollution? How it can be controlled? (3)

(ب) پانی کی آلودگی سے کیا مراد ہے؟ اسے کس طرح کنٹرول کیا جاسکتا ہے؟

Punjab Education, Curriculum, Training & Assessment Authority

Pairing Scheme / Instructions for Preparation of Exam Paper of Computer Science & Entrepreneurship-Tech for Class-9 (REVISED)

The paper of Computer Science & Entrepreneurship-Tech for Class-9 will consist of 40 marks.

Duration of the paper will be 2 hours.

(Objective Type = 15 minutes + Subjective Type = 1:45 hours)

Objective Type = 10 marks + Subjective Type = 30 marks.

The paper will be made as per following details:

Part-I: Objective:	Q-1: 10 Multiple Choice Questions (MCQs) will be developed from the entire content of the textbook. One MCQ will be asked from all chapters from chapter No. 1 to 10.	1×10= 10
Part-II: Subjective:	This section will contain three short answer questions. Each short answer question will be asked from the content of the textbook. The detail is as follows:	
	Q-2: 4 short answer questions have to be answered out of 6. The detail is as follows: • One short answer question will be asked each from chapter No.1, 2, 4 and 6. • Two short answer questions should be asked from chapter No. 3.	2 × 4 = 8
	Q-3: 4 short answer questions have to be answered out of 6. The detail is as follows: • Two short answer questions will be asked from chapter No. 5. • One short answer question will be asked each from chapter No. 7, 8, 9 and 10.	2 × 4 = 8
Part-III: Subjective:	This section will contain three detailed questions and students have to attempt two questions carrying 7 marks each. Each detailed question will be asked from the content of the textbook. The detail is as follows: Q-5: One detailed question will be asked from Chapter No 5. Q-6: One detailed question will be asked from Chapter No 7. Q-7: One detailed question will be asked either from chapter 2 or chapter 10.	2 × 7=14

MODEL PAPER OF COMPUTER SCIENCE AND ENTREPRENEURSHIP-TECH FOR CLASS-9 (REVISED)

Objective (Part-I)

Question # 1

Time Allowed: 15 mins

Multiple Choice Questions (MCQ)

Choose the correct option درست آپشن کا انتخاب کریں (1x10 = 10)

- i. **Which of the following control operations inside a Computer System?**
 a) Control Unit کنٹرول یونٹ b) System Bus سسٹم بس
 c) Memory میموری d) Processor پروسیسر
 .i کمپیوٹر سسٹم میں آپریٹنگ کنٹرول کرنے کے لیے درج ذیل میں سے کون سا حصہ استعمال ہوتا ہے۔
- ii. **In the single precision, how many bits are used for the exponent?**
 a) 23 bits b) 8 bits c) 11 bits d) 52 bits
 .ii سنگل پری سیژن میں ایکسپونینٹ کے لیے کتنی بٹس استعمال ہوتی ہیں؟
- iii. **Which logic gate output true if at least one input is true?**
 a) OR gate b) AND gate c) XOR gate d) NOT gate
 .iii لاجک گیٹ میں گیٹ کی آؤٹ پٹ True ہوتی ہے جب کم از کم ایک ان پٹ True ہو:
- iv. **Which of the following is an example of application software?**
 a) Microsoft word مائیکروسوفٹ ورڈ b) BIOS بائیوس
 c) Disk cleanup ڈسک کلیئ اپ d) Device Manager ڈیوائس مینیجر
 .iv درج ذیل میں سے کون سی ایپلیکیشن سوفٹ ویئر ایک مثال ہے؟
- v. **In which network topology all devices share a single communication line?**
 a) Ring رینگ b) Mesh میش c) Bus بس d) Star سٹار
 .v درج ذیل میں سے کس نیٹ ورک ٹوپولوجی میں تمام ڈیوائسز ایک ہی مواصلاتی لائن کو شیئر کرتی ہیں؟
- vi. **Which term refers to the process of ignoring the detail to focus on the main idea?**
 a) Decomposition تقسیم یا تجزیہ b) Pattern Recognition پیٹرن کی شناخت
 c) Abstraction تجرید d) Algorithm Design الگورتھم ڈیزائن
 .vi درج ذیل میں سے کون سی اصطلاح تفصیل کو نظر انداز کر کے مرکزی نکتے پر توجہ مرکوز کرنے کا عمل بیان کرتی ہے؟
- vii. **What type of data is used to Categorize items without implying any order?**
 a) Ordinal Data آرڈینل ڈیٹا b) Discrete Data غیر مسلسل ڈیٹا
 c) Nominal Data نومیئل ڈیٹا d) Continuous Data مسلسل ڈیٹا
 .vii بغیر کسی ترتیب کے اشیاء کی درجہ بندی کرنے کے لیے کس قسم کا ڈیٹا استعمال ہوتا ہے؟
- viii. **Which of these is a security concern in IOT deployment?**
 a) Device Vulnerability ڈیوائس کی کمزوری
 b) Data privacy ڈیٹا کی رازداری
 c) Lack of Standardization معیار کی کمی
 d) All مذکورہ تمام

ix. اگر آپ کو کسی نامعلوم ارسال کنندہ کی طرف سے ذاتی معلومات طلب کرنے والا ای میل موصول ہو تو آپ کو کیا کرنا چاہیے؟

ix. What should you do if you email from an unknown sender an email asking for personal information?

- | | | |
|----|---------------------------------------|---|
| a) | Provide the information requested | درخواست کردہ معلومات فراہم کریں |
| b) | Forward the email to your friends | دوستوں کو ای میل بھیجیں |
| c) | Ignore or delete the email | ای میل کو نظر انداز یا حذف کریں |
| d) | Open the email and click on any links | ای میل کھولیں اور کسی بھی لنک پر کلک کریں |

x. ڈیزائن ٹھکنگ کے عمل میں پانچواں مرحلہ کیا ہے؟

x. What is the Fifth step in the design thinking process?

- | | | | | | |
|----|-------------|--------------|----|----------|----------|
| a) | Prototyping | پروٹو ٹائپنگ | b) | Testing | ٹیسٹنگ |
| c) | Empathizing | ایمپیتھائزنگ | d) | Defining | ڈیفائننگ |

Subjective (Part-II)

Total Marks: 30

Time Allowed: 1:45 hrs

Q. 2: Write Short answers to any four (4) questions. (2x4=8) کوئی سے چار سوالات کے مختصر جواب دیں۔
i. نیچرل سائنس کی تعریف کریں۔

i. Define Natural Science.

ii. 1010011010 کو آکٹل نمبر سسٹم میں تبدیل کریں۔

ii. Convert 1010011010 to Octal number system.

iii. اینالوگ سگنل کے بارے میں آپ کیا جانتے ہیں؟

iii. What do you know about Analog signal?

iv. ایکسپریشن $(A+B)$ کو مختصر کریں۔

iv. Simplify the expression $(A+B)$.

v. ایپلیکیشن سوفٹ ویئر کے بارے میں آپ کیا جانتے ہیں؟

v. What do you know about application Software?

vi. الگورتھم کیا ہے؟

vi. What is algorithm?

Q. 3: Write Short answers to any four (4) questions. (2x4=8) کوئی سے چار سوالات کے مختصر جواب دیں۔
i. ڈیٹا کیونیکیشن کے بنیادی اجزاء کیا ہیں؟

i. What are the basic components of data communication?

ii. راولر کی تعریف کریں۔

ii. Define router.

iii. کوالیٹایٹو ڈیٹا کی تعریف کریں۔

iii. Define qualitative data.

iv. رول بیسڈ سسٹم سے کیا مراد ہے؟ مثال کے ساتھ وضاحت کریں۔

iv. Define Rule-based systems with example.

v. کلاؤڈ سروسز کی تعریف کریں۔

v. Define Cloud Services.

vi. انٹرپرائزور شپ میں ڈیجیٹل ٹیکنالوجی کا کردار بیان کریں۔

vi. Define role of digital Technologies in entrepreneurship.

Subjective (Part-III)

Write detailed answers to any two (2) questions. (2x7=14) کوئی سے دو سوالات کے تفصیلی جواب دیں۔

4. نیٹ ورک ٹوپولوجی سے کیا مراد ہے؟ بس ٹوپولوجی اور سٹار ٹوپولوجی کی وضاحت کریں۔

Q # 4 What is network topology, explain bus and star topology?

5. ڈیٹا اکٹھا کرنے سے کیا مراد ہے؟ ڈیٹا اکٹھا کرنے کے مختلف طریقوں کی وضاحت کریں۔

Q # 5 What is data collection, Explain different method of data Collection?

6. ای کامرس کیا ہے؟ ای کامرس کے مختلف پلیٹ فارمز کی وضاحت کریں۔

Q # 6 What is E-commerce, also explain E-commerce platforms?