



TEXTILE INSTITUTE OF PAKISTAN

ENTRANCE TEST

BSc

Textile Science

General Instructions

1. Candidates shall only use the stationery provided by the institute.
2. The use of calculator is prohibited.
3. Mobile sets must be switched off and handed over to the invigilator staff before the test.
4. The test is divided into four parts. Each part consists of many short items.
5. Carefully read separate instructions provided for each part.
6. The total allowed time for the test is 90 minutes (1.5 hours). Candidates can attempt questions in any sequence.
7. Any evidence of cheating or non-compliance with instructions will disqualify you from the test.
8. All answers must be given on a separate answer sheet provided. Indicate the answer by encircling the correct alphabet (A, B, C or D). If more than one alphabet is encircled for any question, it will be treated as incorrect.
9. Two blank sheets are also provided, one to do rough work and the other for paragraph writing. Both these sheets must be returned along with the answer sheet.
10. You must write your name and roll number on the answer sheet, rough work sheet and paragraph writing sheet
11. **You must not write any thing anywhere on the test booklet. All answers must be given on the answer sheet.**
12. Negative marking does not apply to this test.

PART I

ENGLISH

Section A	Academic Reading	05 Questions
Section B	Sentence Structure	10 Questions
Section C	Vocabulary	10 Questions
Section D	Writing (100 words)	05 Marks
Number of questions		25
All Questions (1 mark each)		25 Marks
Writing		05 Marks
Total Marks		30 Marks

Section A - Academic Reading

Questions: 05

Marks: 05

Read the passage given below and answer the questions that follow:

Passage

In the early 1920's, settlers came to Alaska looking for gold. They traveled by boat to the coastal towns of Seward and Knik, and from there by land into the gold fields. The trail they used to travel inland is known today as the Iditarod Trail, one of the National Historic Trails designated by the Congress of the United States. The Iditarod Trail quickly became a major thoroughfare in Alaska, as the mail and supplies were carried across this trail. People also used it to get from place to place, including the priests, ministers, and judges who had to travel between villages. In the winter, the settlers' only means of travel down this trail was via dog sled.

Once the gold rush ended, many gold-seekers went back to where they had come from, and suddenly there was much less travel on the Iditarod Trail. The introduction of the airplane in the late 1920's meant dog teams were no longer the standard mode of transportation, and of course with the airplane carrying the mail and supplies, there was less need for land travel in general. The final blow to the use of the dog teams was the appearance of snowmobiles. By the mid 1960's, most Alaskans didn't even know the Iditarod Trail existed, or that dog teams had played a crucial role in Alaska's early settlements. Dorothy G. Page, a self-made historian, recognized how few people knew about the former use of sled dogs as working animals and about the Iditarod Trail's role in Alaska's colorful history. To raise awareness about this aspect of Alaskan history, she came up with the idea to have a dog sled race over the Iditarod Trail. She presented her idea to an enthusiastic musher, as dog sled drivers are known, named Joe Redington, Sr. Soon the Pages and the Redingtons were working together to promote the idea of the Iditarod race.

Many people worked to make the first Iditarod Trail Sled Dog Race a reality in 1967. The Aurora Dog Musher's Club, along with men from the Adult Camp in Sutton, helped clear years of overgrowth from the first nine miles of the Iditarod Trail. To raise interest in the race, a \$25,000 purse was offered, with Joe Redington donating one acre of his land to help raise the funds. The short race, approximately 27 miles long, was put on a second time in 1969.

After these first two successful races, the goal was to lengthen the race a little further to the ghost town of Iditarod by 1973. However in 1972, the U.S. Army reopened the trail as a winter exercise, and so in 1973, the decision was made to take the race all the way to the city of Nome—over 1,000 miles. There were many who believed it could not be done and that it was crazy to send a bunch of mushers out into the vast, uninhabited Alaskan wilderness. But the race went! 22 mushers finished that year, and to date over 400 people have completed it.

- 1) The primary purpose of this passage is to:
 - A. recount the history of the Iditarod trail and the race that memorializes it
 - B. describe the obstacles involved in founding the Iditarod race
 - C. outline the circumstances that led to the establishment of the Iditarod Trail
 - D. reestablish the important place of the Iditarod Trail in Alaska's history

- 2) Based on information in the passage, it can be inferred that all of the following contributed to the disuse of the Iditarod Trail except:
 - A. more modern forms of transportation
 - B. depleted gold mines
 - C. highway routes to ghost towns
 - D. reduced demand for land travel

- 3) As used in paragraph 2, which is the best definition for mode?
 - A. formula
 - B. way
 - C. preference
 - D. option

- 4) According to the passage, the initial Iditarod race
 - A. was funded through the sale of musher entrance fees
 - B. was founded by an advocate for Alaskan history
 - C. ended at the ghost town of Iditarod
 - D. boasted a total of 400 entrants

- 5) As used in paragraph 3, the phrase "self-made historian" implies that Dorothy G. Page:
 - A. was employed by the state to keep its dog sled history alive
 - B. was determined to honor the glories of the gold rush in spite of her questionable credentials
 - C. had pursued the study of Alaska's history out of her own interest
 - D. had personally educated others about Alaska's history

Section B – Sentence Structure

Questions: 10

Marks: 10

Choose the best word or phrase:

- (6) I'm busy at the moment. _____ on the computer.
A. I work B. I'm working C. I'm work D. I working
- (7) The chemist's was open, so luckily I _____ buy some aspirin.
A. can B. can't C. did can D. was able to
- (8) Robert _____ ill for weeks. He's still in hospital.
A. had been B. has been C. is D. was
- (9) There's _____ in complaining. They probably won't do anything about it.
A. a few B. a little C. few D. little
- (10) The village is _____ Sheffield. It's only six miles away.
A. along B. by C. near D. next
- (11) I _____ missed the bus. I was only just in time to catch it.
A. mostly B. near C. nearest D. nearly
- (12) I'll tell Anna all the news when _____ her.
A. I'll see B. I'm going to see C. I see D. I shall see
- (13) We had a party last night. _____ spend all morning cleaning up the mess.
A. I must have B. I've been to C. I've had to D. I've must
- (14) I prefer dogs _____ cats. I hate cats.
A. from B. over C. than D. to
- (15) What's the weather like in Canada? How often _____ there?
A. does it snow B. does it snows C. snow it D. snows it

Section C – Vocabulary

Questions: 10

Marks: 10

Select the most suitable meaning of the given words:

(16) Deity

- A. a god
- B. a complete failure
- C. highly impractical
- D. evenness of temper

(17) dearth

- A. to punish or criticize severely
- B. to cause, produce or stir up
- C. habitually fond of associating in a company or group
- D. scarcity

(18) integrity

- A. honesty
- B. liable to make mistakes
- C. possessing similar interests
- D. very heavy clumsy

(19) predatory

- A. inclined to plunder or rob
- B. an assumption made for the sake of argument
- C. confused, unintelligible
- D. outstandingly bad

(20) dissent

- A. partiality or preference for
- B. to disagree
- C. to banish or exile
- D. a relation between two things shown in the resemblance not of the things themselves but of their characteristics

Choose the right synonym for the given word

(21) salver

- A. a tray
- B. a recipe
- C. a rescuer
- D. a performer

(22) valliant

- A. nervous
- B. cowardly
- C. quick
- D. brave

(23) defunct

- A. no longer in use
- B. erase
- C. desert
- D. an officer

(24) atrocity

- A. large town
- B. good looking
- C. waste away
- D. cruelty

(25) cede

- A. plant
- B. rank
- C. give up
- D. allow

Section D – Writing

Marks: 05

Write about 100 words on any one of the given topics.

(Use ONLY the sheet provided for writing)

- 1) Should people respect and tolerate everyone's opinions, or should people take a stand against opinions they consider to be wrong?. Support your position with reasoning and examples.
- 2) 'Corruption is the mother of all evils.'

PLEASE DO NOT WRITE HERE / USE ONLY THE SHEET PROVIDED FOR WRITING

PART II

Mathematics

Section A	Word Problems	10 Questions
Section B	Series	05 Questions
Section C	Pure Mathematics	15 Questions
Total questions		30
Total Marks (1 mark each)		30 Marks

Section A – Word Problems

Questions: 15

Marks: 15

- (1) Alfred buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800, his gain percent is:?
- A. $44\frac{7}{11}\%$
B. $55\frac{11}{11}\%$
C. 10 %
D. 12 %
- (2) The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is:
- A. 15
B. 16
C. 18
D. 25
- (3) The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
- A. 4
B. 8
C. 10
D. None
- (4) In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?
- A. 6.25
B. 6.5
C. 6.75
D. 7
- (5) In how many ways can the letters of the word 'LEADER' be arranged?
- A. 72
B. 144
C. 360
D. 720

- (6) Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.
- A. 4
 - B. 7
 - C. 9
 - D. 13
- (7) The cube root of .000216 is:
- A. 0.6
 - B. 0.06
 - C. 0.006
 - D. None of these
- (8) Total possible outcome 2 die and 4 coins will be:
- A. 5184
 - B. 5814
 - C. 5481
 - D. None
- (9) The percentage increase in the area of a rectangle, if each of its sides is increased by 20% is:
- A. 40
 - B. 42
 - C. 44
 - D. 46
- (10) Which of the following statements is not correct?
- A. $\log_{10} 10 = 1$
 - B. $\log (2 + 3) = \log (2 \times 3)$
 - C. $\log_{10} 1 = 0$
 - D. $\log (1 + 2 + 3) = \log 1 + \log 2 + \log 3$

Section B – Series

Questions: 05

Marks: 05

Indicate the next item of the series:

(11) 1.5 2.3 3.1 3.9

- A. 4.2
- B. 4.4
- C. 4.7
- D. 5.1

(12) 14 28 20 40 32 64

- A. 52
- B. 56
- C. 96
- D. 128

(13) 2 4 6 8 10

- A. 14
- B. 13
- C. 12
- D. 11

(14) 201 202 204 207

- A. 205
- B. 208
- C. 210
- D. 211

(15) 544 509 474 439

- A. 404
- B. 414
- C. 420
- D. 445

Section C – Pure Mathematics

Questions: 15

Marks: 15

- (16) If the variance of a series is 16 then the S.D will be
- A. 36
 - B. 20
 - C. 2
 - D. 4
- (17) Side opposite to the angle of consideration is called
- A. perpendicular
 - B. Hypotenuse
 - C. base
 - D. diagonal
- (18) The mean proportion of 14 and 56 is
- A. 12
 - B. 24
 - C. 28
 - D. 36
- (19) What are the total permutation of the word "ambient"?
- A. 720
 - B. 5040
 - C. 49
 - D. 120
- (20) Find the total number of multiple of three from 1 to 999.
- A. 111
 - B. 222
 - C. 333
 - D. 444
- (21) Order of the power set of a set having 5 elements is
- A. 32
 - B. 10
 - C. 16
 - D. \emptyset

(22) Angle inscribed under major arc is

- A. Obtuse
- B. Adjacent
- C. Acute
- D. Perpendicular

(23) $\lim_{x \rightarrow 0} \frac{\sin[\sqrt{(1+2x^2)}]}{[\sqrt{(1+2x^2)}]}$

- A. 1
- B. 2
- C. 0
- D. None of these

(24) If $\log_4(X) = -3/2$ then $X = \dots$

- A. $1/9$
- B. $1/6$
- C. 8
- D. $1/8$

(25) The point of concurrency of the medians of a triangle is called

- A. Centroid
- B. In-centre
- C. circum centre
- D. ortho-centre

(26) π is a ----- number

- A. Real
- B. Rational
- C. Irrational
- D. None of these

(27) Product of a complex number and its Conjugate is always a

- A. Rational number
- B. Irrational number
- C. Real number
- D. Complex number

(28) Domain of polynomial is :

- A. Real number
- B. Irrational number
- C. Rational number
- D. Complex number

(29) The characteristic of 0.00234 is

- A. 2
- B. -2
- C. 3
- D. -3

(30) In similar triangles which of the following is congruent.

- A. Sides
- B. Angles
- C. Hypotenuse
- D. Angles and sides

PART III

General Science

Section A	Physics	10 Questions
Section B	Chemistry	10 Questions
Total questions		20
Total Marks (1 mark each)		20 Marks

Section A – Physics

Questions: 10

Marks: 10

(1) The unit of power of a lens is:

- A. m^{-1}
- B. Angstrom
- C. Watt
- D. Dioptre

(2) Dimension of velocity is:

- A. $[LT^{-1}]$
- B. $[LT^{-2}]$
- C. $[L^2T^{-1}]$
- D. $[L^2T^{-2}]$

(3) π radian is:

- A. 90°
- B. 180°
- C. 270°
- D. 360°

(4) Rate of doing work is:

- A. Energy
- B. Momentum
- C. Power
- D. Speed

(5) The SI unit of heat is:

- A. Joule
- B. Calorie
- C. Electron volt
- D. Watt

(6) Maximum horizontal range is possible for a projectile when fired with angle:

- A. 30 degrees
- B. 45 degrees
- C. 70 degrees
- D. 90 degrees

(7) The equation that determines the inter conversion of mass and energy is:

- A. $E = mc$
- B. $E = m^2c$
- C. $E = mc^3$
- D. $E = mc^2$

(8) Nm is the SI unit of:

- A. Force
- B. Torque
- C. Inertia
- D. Pressure

(9) The ratio of charge to voltage is called:

- A. Current
- B. Potential difference
- C. Inductance
- D. Capacitance

(10) Theory of relativity was proposed by:

- A. Newton
- B. Einstein
- C. Al-Khawrizimi
- D. Maxwell

Section B – Chemistry

Questions: 10

Marks: 10

- (11) If 1 litre of 1M acetic acid solution is diluted with distilled water to final volume of 2 litres, what will be the normality of final solution?
- A. 2M
 - B. 0.5N
 - C. 3M
 - D. 0.5M
- (12) Which one of the following is an example of electrolyte?
- A. NaCl
 - B. $C_6H_{12}O_6$
 - C. Benzene
 - D. Ethanol
- (13) Which one the following is an example of neutralization reaction?
- A. $C_6H_6 + NO_2$
 - B. $CH_3OH + CH_3COOH$
 - C. $NaOH + Na_2CO_3$
 - D. $NaOH + CH_3COOH$
- (14) An atom of Oxygen having atomic number 8 and atomic weight 16 contains in its nucleus:
- A. 6 neutrons
 - B. 8 neutrons
 - C. 18 protons
 - D. 10 protons
- (15) Which of the following applies to an addition reaction of organic compounds?
- A. a single bond changes to a double bond
 - B. a single bond changes to a triple bond
 - C. a double bond changes to single bond
 - D. no change in bonding

- (16) All organic compounds essentially contain which of the following elements:
- A. Carbon
 - B. Oxygen
 - C. Nitrogen
 - D. Silicone
- (17) On cooling, water vapour changes to liquid water. This process is:
- A. Condensation
 - B. Endothermic process
 - C. Oxidation
 - D. Reduction
- (18) The volume of 0.1N sodium hydroxide solution required to completely neutralize 10 ml of 0.2N HCl solution is:
- A. 3 ml
 - B. 5 ml
 - C. 10 ml
 - D. 20 ml
- (19) Which of the following is an example of secondary bond?
- A. Covalent bond
 - B. Ionic bond
 - C. Coordinate covalent bond
 - D. Hydrogen bond
- (20) Accepting the definition that an acid is a proton donor, the acid in the following reaction, $\text{NH}_3 + \text{H}_2\text{O} \rightleftharpoons \text{NH}_4^+ + \text{OH}^-$, is:
- A. NH_3
 - B. HO^-
 - C. NH_2
 - D. H_2O

PART IV

General Knowledge

&

Current Affairs

Section A	General Knowledge	10 Questions
Section B	Current Affairs	10 Questions
Total questions		20
Total Marks (1 mark each)		20 Marks

Section A - General Knowledge

Questions: 10

Marks: 10

- (1) The national game of Pakistan is?
- A. Cricket
 - B. Kabaddi
 - C. Football
 - D. Hockey
- (2) The gas mainly responsible for global warming is?
- A. Carbon monoxide
 - B. Nitrogen peroxide
 - C. Carbon dioxide
 - D. Nitrous oxide
- (3) Washing soda is the common name of?
- A. Calcium carbonate
 - B. Sodium carbonate
 - C. Calcium bicarbonate
 - D. Sodium bicarbonate
- (4) Olympic games are normally held after?
- A. 4 years
 - B. 3 years
 - C. 5 years
 - D. 2 years
- (5) Persons with which blood group are called "Universal donors"?
- A. B
 - B. AB
 - C. A
 - D. O
- (6) The sign of protest is?
- A. Red flag
 - B. White flag
 - C. Red triangle
 - D. Black flag

- (7) The largest bird is?
- A. Swift
 - B. Ostrich
 - C. Kiwi
 - D. Cuckoo
- (8) The longest living creature is?
- A. Blue whale
 - B. Elephant
 - C. Lion
 - D. Giraffe
- (9) Which of the following is used as a laughing gas?
- A. Nitrogen trioxide
 - B. Nitrogen dioxide
 - C. Nitrous oxide
 - D. Nitrogen tetroxide
- (10) The currency of Japan is?
- A. Pound
 - B. Dollar
 - C. Yuan
 - D. Yen

Section B - Current Affairs

Questions: 10

Marks: 10

- (11) New elected Indian Prime Minister is?
- A. Abul Kalam
 - B. Rahul Gandhi
 - C. Narindra Modi
 - D. LaluParsad Yadav
- (12) Myanmar was previously known as?
- A. Nepal
 - B. Bhutan
 - C. Burma
 - D. Singapore
- (13) The 2014 football Worldcup was won by?
- A. Italy
 - B. Spain
 - C. Germany
 - D. Brazil
- (14) The winner of English Premier Football League in 2014 is?
- A. Chelsea
 - B. Manchester City
 - C. Manchester United
 - D. Liverpool
- (15) The present President of Pakistan is?
- A. Asif Ali Zardari
 - B. Yousuf Raza Gilani
 - C. Shahbaz Sharif
 - D. Mamnoon Hussain
- (16) Al-Tehrir Square is in _____.
- a. Damascus
 - b. Cairo
 - c. Tripoli
 - d. Istanbul

- (17) The open market conversion rate of 1US\$ is approximately?
- A. Rs.75
 - B. Rs.85
 - C. Rs.95
 - D. Rs.105
- (18) A Malaysian Airline allegedly hit by missile fired by rebels, crashed in?
- A. Ukraine
 - B. Iraq
 - C. Pakistan
 - D. Germany
- (19) The Sakharov Prize for freedom of thoughts for 2013 was awarded to?
- A. Abdul Sattar Edhi
 - B. Kofi Annan
 - C. Malala Yousufzai
 - D. Jim Yong Kim
- (20) Which is the longest river of the world?
- A. Indus
 - B. Nile
 - C. Amazon
 - D. Ganges

TEXTILE INSTITUTE OF PAKISTAN
BSc (Hons) Textile Science

ANSWER SHEET

Name: _____ Roll # _____

Part-I (English)	Part-II (Mathematics)	Part-III (G. Science)	Part-IV (GK & Current Affairs)
Section A	Section A	Section A	Section A
(1) A B C D	(1) A B C D	(1) A B C D	(1) A B C D
(2) A B C D	(2) A B C D	(2) A B C D	(2) A B C D
(3) A B C D	(3) A B C D	(3) A B C D	(3) A B C D
(4) A B C D	(4) A B C D	(4) A B C D	(4) A B C D
(5) A B C D	(5) A B C D	(5) A B C D	(5) A B C D
Section B	(6) A B C D	(6) A B C D	(6) A B C D
(6) A B C D	(7) A B C D	(7) A B C D	(7) A B C D
(7) A B C D	(8) A B C D	(8) A B C D	(8) A B C D
(8) A B C D	(9) A B C D	(9) A B C D	(9) A B C D
(9) A B C D	(10) A B C D	(10) A B C D	(10) A B C D
(10) A B C D	Section B	Section B	Section B
(11) A B C D	(11) A B C D	(11) A B C D	(11) A B C D
(12) A B C D	(12) A B C D	(12) A B C D	(12) A B C D
(13) A B C D	(13) A B C D	(13) A B C D	(13) A B C D
(14) A B C D	(14) A B C D	(14) A B C D	(14) A B C D
(15) A B C D	(15) A B C D	(15) A B C D	(15) A B C D
Section C	Section C	(16) A B C D	(16) A B C D
(16) A B C D	(16) A B C D	(17) A B C D	(17) A B C D
(17) A B C D	(17) A B C D	(18) A B C D	(18) A B C D
(18) A B C D	(18) A B C D	(19) A B C D	(19) A B C D
(19) A B C D	(19) A B C D	(20) A B C D	(20) A B C D
(20) A B C D	(20) A B C D		
(21) A B C D	(21) A B C D		
(22) A B C D	(22) A B C D		
(23) A B C D	(23) A B C D		
(24) A B C D	(24) A B C D		
(25) A B C D	(25) A B C D		
	(26) A B C D		
	(27) A B C D		
	(28) A B C D		
	(29) A B C D		
	(30) A B C D		

TEXTILE INSTITUTE OF PAKISTAN

BSc (Hons) Textile Science

Sheet for writing

Name: _____ Roll # _____

TEXTILE INSTITUTE OF PAKISTAN

BSc (Hons) Textile Science

Rough Work Sheet

Name: _____ Roll # _____