



# MAT

## Mohammad Ali Jinnah University Admission Test

### Sample Test Paper for Undergraduate Programs

**MAT is a computer-based test. This sample test is only to show example questions in each of the three sections of the test.**

- A. Essay Writing (20 minutes – 20 marks)  
(100 minutes – 80 marks)
- B. Verbal Reasoning (40 MCQs)
- C. Quantitative Reasoning (40 MCQs)

These questions in paper-based format are to help applicants prepare for MAT.

## **A. ESSAY WRITING**

### **INSTRUCTIONS:**

The essay gives you an opportunity to show how effectively you can develop and express ideas. You should therefore take care to develop your point of view, present your ideas logically and clearly, and use language precisely.

You will be given 20 minutes to plan and compose a response. An off-topic response will receive a ZERO.

Think carefully about the issue presented in the following excerpt and the assignment below.

"Role of social media in shaping ideas"

**Assignment:** Write a response in which you discuss the extent to which you agree or disagree with the recommendation and explain your reasoning for the position you take. In developing and supporting your position, describe specific circumstances in which adopting the recommendation would or would not be advantageous and explain how these examples shape your position.

## **B. VERBAL REASONING**

### **B1: Analogy**

1. Loin : Roar

- (A) Goat : Bleat
- (B) Snake : Slither
- (C) Lizard : Crawl
- (D) Elephant : Tusk

2. Solution : Mystery :: Acute : \_\_\_\_\_

- (A) Detective
- (B) Study
- (C) Library
- (D) Books

3. Patter : Rain :: Thunder : \_\_\_\_\_

- (A) Bugles
- (B) Stream
- (C) Clouds
- (D) Clouds

4. Suggest : Demand :: \_\_\_\_\_ : \_\_\_\_\_

- (A) Question : Ask
- (B) Give : Receive
- (C) Deny : Request
- (D) Take : Grab

5. Promise : Fulfill : ----- : -----

- (A) Pawn : Redeem
- (B) Confession : Hedge
- (C) Pledge : Deny
- (D) Law : Enforce

## **B2: Synonym**

### **6. Rectify**

- (A) To build
- (B) Correct
- (C) Destroy
- (D) To command

### **7. Parasite**

- (A) A loss of motion
- (B) Exterminator
- (C) Disease
- (D) One that clings

### **8. Placate**

- (A) To make sure
- (B) To annoy
- (C) To pacify
- (D) To flatten out

### **9. Paramount**

- (A) Very important
- (B) Wide and extensive
- (C) Above others in rank of authority
- (D) Famous

### **10. Forestall**

- (A) Avoid
- (B) Frighten
- (C) Prevent
- (D) Disappoint

### **B3: Antonym**

11. Anomalous

- (A) Usual
- (B) Connected
- (C) Vicious
- (D) Capacious

12. Preposterous

- (A) Apologetic
- (B) Credible
- (C) Conceited
- (D) Complaisant

13. Puissance

- (A) Repudiation
- (B) Impotence
- (C) Approbation
- (D) Ignorance

14. Deleterious

- (A) Inclusive
- (B) Impulsive
- (C) Pathetic
- (D) Salubrious

15. Revealed

- (A) Naked
- (B) Concealed
- (C) Open
- (D) Bare

#### **B4: Sentence Completion**

16. When he reached home,
- (A) he sees a strange event
  - (B) he will see a strange event
  - (C) he see a strange event
  - (D) he saw a strange event
17. Dowry is no longer permitted by law even in \_\_\_\_ marriage.
- (A) love
  - (B) conventional
  - (C) natural
  - (D) polygamous
18. My ancestor who lost his life in the Revolutionary War was a \_\_\_\_\_ for American independence.
- (A) compatriot
  - (B) reactionary
  - (C) martyr
  - (D) knave
19. The high-profile company CEO was given an \_\_\_\_\_ for speaking at the monthly meeting of the area business leaders' society.
- (A) expiation
  - (B) honorarium
  - (C) inquisition
  - (D) interpretation
20. Because he was so \_\_\_\_\_, the athlete was able to complete the obstacle course in record time.
- (A) speculative
  - (B) nimble
  - (C) belligerent
  - (D) volatile

21. Professionals ..... nurses and teachers are often underpaid.

- (A) such as
- (B) as
- (C) likewise
- (D) further

22. The girl ..... sits next to Sam is his niece.

- (A) whom
- (B) where
- (C) which
- (D) who

23. You ..... do something to improve the situation.

- (A) ought
- (B) should be
- (C) ought to
- (D) is able to

24. She is the ..... girl in the class.

- (A) chirpy
- (B) most chirpy
- (C) chirpiest
- (D) chirper

25. I worked ..... the best of my ability.

- (A) to
- (B) by
- (C) for
- (D) in

26. \_\_\_\_\_ for talking too much, the teacher \_\_\_\_\_ his reputation by keeping the class 30 minutes longer than the scheduled class time.

- (A) Notorious . . . verified
- (B) Famous . . . evinced
- (C) Renowned . . . overturned
- (D) Eminent . . . established

27. Because the issue is so insignificant, it was surprising that the disagreement among city council members was so \_\_\_\_.
- (A) tepid
  - (B) acrimonious
  - (C) slovenly
  - (D) genial
28. Hoping to escape detection, Minnie \_\_\_\_\_ placed an ace in her sleeve while Rance shuffled the cards.
- (A) brazenly
  - (B) overtly
  - (C) furtively
  - (D) hopefully
29. Over thousands of years, organisms have \_\_\_\_\_ many strategies to conserve water.
- (A) organized
  - (B) considered
  - (C) questioned
  - (D) evolved
30. My cat is a creature of contradictions: \_\_\_\_\_ yet affectionate, \_\_\_\_\_ yet alert.
- (A) cruel . . . shrewd
  - (B) quiet . . . lively
  - (C) selfish . . . nimble
  - (D) aloof . . . dreamy



## **B5: Comprehension**

### **Passage 1:**

In the 16th century, an age of great marine and terrestrial exploration, Ferdinand Magellan led the first expedition to sail around the world. As a young Portuguese noble, he served the king of Portugal, but he became involved in the quagmire of political intrigue at court and lost the king's favor. After he was dismissed from service by the king of Portugal, he offered to serve the future Emperor Charles V of Spain.

A papal decree of 1493 had assigned all land in the New World west of 50 degrees W longitude to Spain and all the land east of that line to Portugal. Magellan offered to prove that the East Indies fell under Spanish authority. On September 20, 1519, Magellan set sail from Spain with five ships. More than a year later, one of these ships was exploring the topography of South America in search of a water route across the continent. This ship sank, but the remaining four ships searched along the southern peninsula of South America. Finally they found the passage they sought near 50 degrees S latitude. Magellan named this passage the Strait of All Saints, but today it is known as the Strait of Magellan.

One ship deserted while in this passage and returned to Spain, so fewer sailors were privileged to gaze at that first panorama of the Pacific Ocean. Those who remained crossed the meridian now known as the International Date Line in the early spring of 1521 after 98 days on the Pacific Ocean. During those long days at sea, many of Magellan's men died of starvation and disease.

Later, Magellan became involved in an insular conflict in the Philippines and was killed in a tribal battle. Only one ship and 17 sailors under the command of the Basque navigator Elcano survived to complete the westward journey to Spain and thus prove once and for all that the world is round, with no precipice at the edge.

31. The 16th century was an age of great \_\_\_\_\_ exploration.
- (A) cosmic
  - (B) land
  - (C) mental
  - (D) common man
  - (E) None of the above
32. Magellan lost the favor of the king of Portugal when he became involved in a political \_\_\_\_\_.
- (A) entanglement
  - (B) discussion
  - (C) negotiation
  - (D) problem
  - (E) None of the above
33. The Pope divided New World lands between Spain and Portugal according to their location on one side or the other of an imaginary geographical line 50 degrees west of Greenwich that extends in a \_\_\_\_\_ direction.
- (A) north and south
  - (B) crosswise
  - (C) easterly
  - (D) south east
  - (E) north and west
34. One of Magellan's ships explored the \_\_\_\_\_ of South America for a passage across the continent.
- (A) coastline
  - (B) mountain range
  - (C) physical features
  - (D) islands
  - (E) None of the above
35. Four of the ships sought a passage along a southern \_\_\_\_\_.
- (A) coast
  - (B) inland
  - (C) body of land with water on three sides
  - (D) border
  - (E) Answer not available

## **Passage 2:**

Marie Curie was one of the most accomplished scientists in history. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom.

Marie was born in 1867 in Warsaw, Poland, where her father was a professor of physics. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French university, where she earned her master's degree and doctorate in physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by this horrible misfortune and endured heartbreaking anguish. Despondently she recalled their close relationship and the joy that they had shared in scientific research. The fact that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. In 1911 she received the Nobel Prize in chemistry for isolating radium. Although Marie Curie eventually suffered a fatal illness from her long exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

36. The Curies' \_\_\_\_\_ collaboration helped to unlock the secrets of the atom.

- (A) friendly
- (B) competitive
- (C) courteous
- (D) industrious
- (E) chemistry

37. Marie had a bright mind and a \_\_\_\_\_ personality.

- (A) strong
- (B) lighthearted
- (C) humorous
- (D) strange
- (E) envious

38. When she learned that she could not attend the university in Warsaw, she felt \_\_\_\_\_.

- (A) hopeless
- (B) annoyed
- (C) depressed
- (D) worried
- (E) None of the above

39. Marie \_\_\_\_\_ by leaving Poland and traveling to France to enter the Sorbonne.

- (A) challenged authority
- (B) showed intelligence
- (C) behaved
- (D) was distressed
- (E) Answer not available

40. \_\_\_\_\_ she remembered their joy together.

- (A) Dejectedly
- (B) Worried
- (C) Tearfully
- (D) Happily
- (E) Irefully

### C. QUATITATIVE REASONING

#### C1: Arithmetic

41.  $0.003 \times 0.02 = ?$

- (A) 0.06      (B) 0.006      (C) 0.0006      (D) 0.00006

42. What is the average of the numbers: 0, 0, 4, 10, 5, and 5 ?

- (A) 2      (B) 3      (C) 4      (D) 5

43. What is the rate of discount if a car which price was \$4,000 was sold for \$3,200 ?

- (A) 14%      (B) 16%      (C) 18%      (D) 20%

44.  $|-4| + |4| - 4 + 4 = ?$

- (A) 0      (B) 2      (C) 4      (D) 8

45. What is the value of x in the equation  $3x - 15 - 6 = 0$  ?

- (A) 7      (B) 8      (C) 9      (D) -9

46. If A completes a particular work in 8 days and B completes the same work in 24 days. How many days will it take if they work together?

- (A) 4      (B) 5      (C) 6      (D) 7

47. What comes next in the sequence: 1, 3, 11, 43, \_\_\_ ?

- (A) 161      (B) 171      (C) 181      (D) 191

48. What is the distance traveled by a car which traveled at a speed of 80 km/hr for 3 hours and 30 minutes?

- (A) 275 km      (B) 280 km      (C) 285 km      (D) 290 km

49. In a class of 40 students 20% are girls. How many boys are there in the class?

- (A) 26      (B) 28      (C) 30      (D) 32

50.  $2 + 2 - 2 \times 2 \div 2 = ?$

- (A) 0      (B) 1      (C) 2      (D) 4

51.  $|2| + |-2| + (2)^2 + (-2)^2 = ?$

- (A) 6 (B) 8 (C) 10 (D) 12

52. What comes next in the sequence: 2, 4, 10, 28, \_\_\_ ?

- (A) 64 (B) 70 (C) 76 (D) 82

53. How many feet there are in 5 meters? If 1 meter = 3.281 feet.

- (A) 15.505 (B) 15.905 (C) 16.405 (D) 16.805

54.  $0.003 \times 0.0004 = ?$

- (A) 0.0012 (B) 0.00012 (C) 0.000012 (D) 0.0000012

55. What is average (Arithmetic Mean) of the numbers: 2, 4, 5, 0, 9, 10, and 12?

- (A) 5 (B) 6 (C) 7 (D) 8

## **C2: Algebra and Functions**

56. By factorizing the expression  $2bx + 4by - 3ax - 6ay$ , the answer must be

- (A)  $(2b + 3a)(x - 2y)$   
(B)  $(2b + 3a)(x - 2y)$   
(C)  $(2a - 3b)(3x - 2y)$   
(D)  $(2a + 3b)(2x - 4y)$

57. On solving  $2p - 3q - 4r + 6r - 2q + p$ , the answer will be

- (A)  $8q - 5r$   
(B)  $10p + 3q - 5r$   
(C)  $3p - 5q + 2r$   
(D)  $7p + 5r$

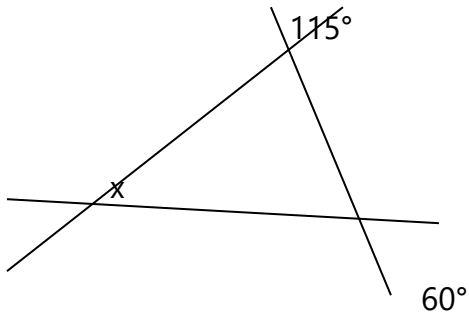
58. The answer of factorization of the expression  $4z(3a + 2b - 4c) + (3a + 2b - 4c)$  is

- (A)  $(4z + 1)(3a + 2b - 4c)$   
(B)  $(4z + 1) + (3a + 2b - 4c)$   
(C)  $(4z + 1) - (3a + 2b - 4c)$   
(D)  $(4z - 1)(3a - 2b - 4c)$

59. If  $-4x + 5y$  is subtracted from  $3x + 2y$  then the answer will be
- (A)  $3x + 6y$
  - (B)  $2x + 5y$
  - (C)  $x - 3y$
  - (D)  $x + 3y$
60. On evaluating the algebraic expression  $-3(4s - 2t) - 4(2s + 3t)$ , the answer will be
- (A)  $-20s - 6t$
  - (B)  $-6s + 20t$
  - (C)  $21s - 7t$
  - (D)  $23s + 8t$
61. The sum of  $5x + 3y$  and  $4x - 2y$  is
- (A)  $5x - 8y$
  - (B)  $9x + y$
  - (C)  $8x + 4y$
  - (D)  $6x + 5y$
62. If  $a = 3$ ,  $b = 2$ ,  $c = 4$  and  $x = 5$  then  $(2ab + 3ac) + (3ax - 4acx) / (2abcx - 2x) + 3$  is
- (A)  $-2$
  - (B)  $-10$
  - (C)  $-5$
  - (D)  $-9$
63. On solving the  $a/4 + a/6$ , the answer will be
- (A)  $8a / 5$
  - (B)  $7a / 11$
  - (C)  $5a / 12$
  - (D)  $3a / 10$
64. The product of 4 and  $-3b$  is
- (A)  $12b$
  - (B)  $-12b$
  - (C)  $3b$
  - (D)  $-3b$
65. If  $6x + 2y - 4z$  is subtracted from  $2x - 8y + 5z$  then the answer will be
- (A)  $-4x + 10y + 9z$
  - (B)  $-4x + 10y - 9z$
  - (C)  $4x + 10y + 9z$
  - (D)  $-4x - 10y + 9z$

### **C3: Geometry**

66. Use the diagram below to answer the question that follows.



Three straight lines intersect to form a triangle, as shown above. What is the measure of angle  $x$ ?

- (A)  $115^\circ$
- (B)  $120^\circ$
- (C)  $125^\circ$
- (D)  $130^\circ$
- (E)  $135^\circ$

67. Which pair of following angles are supplementary?

- (A)  $110^\circ, 50^\circ$
- (B)  $105^\circ, 65^\circ$
- (C)  $35^\circ, 55^\circ$
- (D)  $50^\circ, 130^\circ$
- (E)  $45^\circ, 45^\circ$

68. In the Pythagoras property, the triangle must be \_\_\_\_\_.

- (A) acute angled
- (B) right angled
- (C) obtuse angled
- (D) having all equal angles
- (E) none of the above.



69. If the perimeter of a certain rectangle is 76 and its area is 360 then what is the length of its shortest side?
- (A) 12
  - (B) 18
  - (C) 36
  - (D) 20
  - (E) 40
70. The percentage increase in the area of a rectangle, if each of its sides is increased by 20% is:
- (A) 32%
  - (B) 34%
  - (C) 42%
  - (D) 44%
  - (E) 54%

#### **C4: Equations**

71. Find the roots of  $[(4-32x=17x)]^2$  :
- (A).  $\{2/17,2\}$
  - (B).  $\{-2/17,-2\}$
  - (C).  $\{2/17,-2\}$
  - (D). None of these
72. Which of the following is not a quadratic equation:
- (A)  $x^2 + 3x - 5 = 0$
  - (B)  $x^2 + x^3 + 2 = 0$
  - (C)  $3 + x + x^2 = 0$
  - (D)  $x^2 - 9 = 0$
73. The quadratic equation has degree:
- (A) 0
  - (B) 1
  - (C) 2
  - (D) 3

74. The linear equation has degree:

- (A) 0
- (B) 1
- (C) 2
- (D) 3

75. The graph of linear equation  $x+2y = 2$ , cuts the y-axis at:

- (A) (2,0)
- (B) (0,2)
- (C) (0,1)
- (D) (1,1)

### **C5: Statistics**

76. The mean, mode, and median of the data set: 5, 4, 10, 12, 1, 5, 3, 7, 15, and 8 is respectively

- (A) 5, 6, 7
- (B) 7, 6, 5
- (C) 6, 5, 7
- (D) 7, 5, 6

77. What is the arithmetic mean of the data set: 4, 5, 0, 10, 8, and 3?

- (A) 4
- (B) 5
- (C) 6
- (D) 7

78. The runs scored by a batsman in 5 ODIs are 31,97,112, 63, and 12. The standard deviation is

- (A) 24.79
- (B) 23.79
- (C) 25.79
- (D) 26.79

79. Find the mode of the call received on 7 consecutive day 11,13,13,17,19,23,25

(A) 11

(B) 13

(C) 17

(D) 23

80. Variance of a constant 'x' is

(A) 0

(B)  $x/2$

(C)  $x$

(D) 1

**-----END OF TEST-----**

## Answers

1	A	41	D
2	B	42	C
3	C	43	D
4	C	44	D
5	C	45	A
6	B	46	C
7	D	47	B
8	C	48	B
9	C	49	D
10	C	50	C
11	A	51	D
12	B	52	D
13	B	53	C
14	D	54	D
15	B	55	B
16	D	56	B
17	A	57	C
18	C	58	A
19	B	59	C
20	B	60	A
21	A	61	B
22	D	62	A
23	C	63	C
24	C	64	B
25	A	65	D
26	A	66	B
27	B	67	D
28	C	68	B
29	D	69	B
30	D	70	D

31	B	71	C
32	A	72	B
33	A	73	C
34	C	74	B
35	C	75	C
36	A	76	D
37	B	77	B
38	B	78	C
39	A	79	B
40	A	80	A