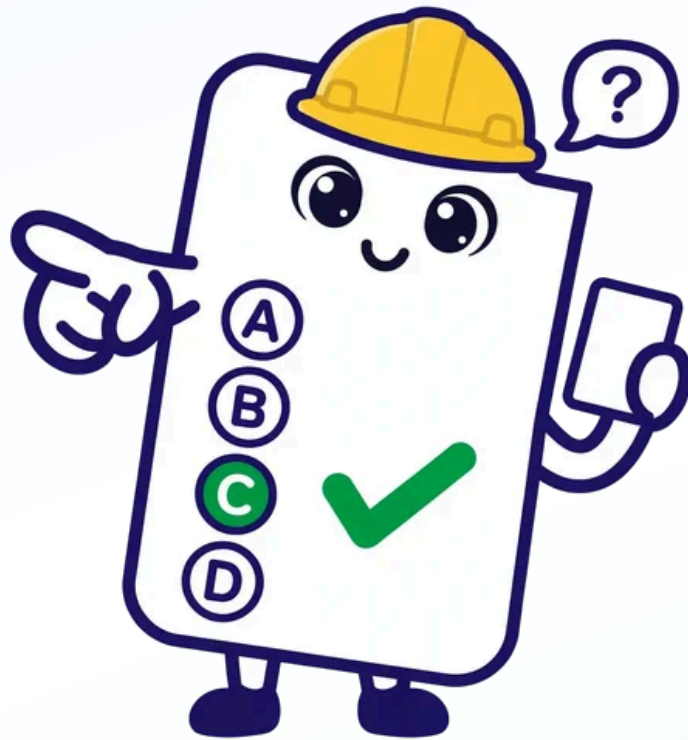




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NUST Entry Test Preparation Book 2026

A full model paper in the real NET pattern, with answer key



200 MCQs

Real NET subject split

Answer key + online explanations

How to use this book

1. Sit each model paper in one go, in 180 minutes, with a pen and the answer sheet of your choice.
2. Mark yourself with the answer key at the back.
3. Every answer in the key is a link. Tap it to read why that option is right on TestUstad, free.

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What is in this book

200 MCQs across one paper, each drawn in the same subject split as the real NET paper:

- Mathematics: 80 MCQs per paper
- Physics: 60 MCQs per paper
- Chemistry: 30 MCQs per paper
- English: 20 MCQs per paper
- Analytical and Logical Reasoning: 10 MCQs per paper



MODEL PAPER 1 OF 1

NUST Entry Test

200 MCQs · 180 minutes · answer key at the back

**Mathematics**

80 MCQs

1. $1 + 1/4 + 1.3/4.8 = \dots =$

A $4/\sqrt{5}$

C $3/\sqrt{5}$

B $2/\sqrt{5}$

D $\sqrt{2}$

2. What is the probability that a leap year has 53 Sundays and 52 Mondays?

A 0

C $2/7$

B $1/7$

D $5/7$

3. If each side of a square is increased by 50% the ratio of the area of the resulting square to the area of the given square is _____?

A 5:4

C 4:5

B 9:4

D 4:9Fun & Trivia

4. If the third term in the binomial expansion of $(1+x)^n$ is $-1/8x^2$ then rational value of n is:

A 2

C 3

B $1/2$

D 4

5. The cost price of an article is 64% of the marked price. Calculate the gain percent after allowing a discount of 12%.

A 37.5 %

C 42 %

B 38.5 %

D 27.5 %Education

6. Bilal's room has a floor of 8m by 4m. He decides to tile the floor with tiles of 25cm x 20 cm. How many tiles will he need?

A 320 tiles

C 160 tiles

B 640 tiles

D 6.4 tiles

7. The statement $3^n < n!$ is true when:

A $n = 2$

C $n = 6$

B $n = 4$

D $n \geq 6$

8. If 6 men take 9 days to complete a work, how many men can complete the work in 3 days?

A 2 men

C 9 men

B 12 men

D 18 men

9. If the diagonal of a square is doubled. How does the area of the square change?

- (A) Becomes fourfold
- (B) Becomes threefold
- (C) Becomes twofold
- (D) none of the above

10. if $1 = \frac{1}{2}(\frac{4}{9}) + 1.3/4.2!(\frac{4}{9})^2 + 1,3,5/8,3!(\frac{4}{9})^3x + \dots$ is identical with the expansion of $(1+x)^3$ than the values of x and n are:

- (A) $-2/3, -1/2$
- (B) $2/3, 1/2$
- (C) $4/9, 1/2$
- (D) $-4/9, -1/2$

11. 4 men and 2 woman can complete a work in 2 days. If 2 men alone take 5 days to complete the work, find the time taken by 2 women alone to complete the work.

- (A) 15 days
- (B) 10 days
- (C) 8 days
- (D) 20 days

12. Find the cost of fencing around a circular field of diameter 28 m at the rate of Rs.1.50 a meter?

- (A) Rs.150
- (B) Rs.132
- (C) Rs.100
- (D) Rs.125

13. In how many ways can a group of 5 men and 2 women be made out of a total of 7 men and 3 women?

- (A) 63
- (B) 90
- (C) 126
- (D) 45

14. A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. What is the speed of the car?

- (A) 80 kmph
- (B) 102 kmph
- (C) 120 kmph
- (D) 140 kmph

15. How many meters of carpet 50cm, wide will be required to cover the floor of a room 30m * 20m?

- (A) 1000
- (B) 600
- (C) 2400
- (D) 1200

16. Find the one which does not belong to that group ?

- (A) Asteroid
- (B) Star
- (C) Planet
- (D) Comet
- (E) Rocket

17. What percent of 125 is 16?

- (A) $10 \frac{2}{5}\%$
- (B) $12 \frac{3}{5}\%$
- (C) $11 \frac{1}{5}\%$
- (D) None of these

18. If the side of a square is increased by 25 %. Then its area is increased by: _____?

- (A) 25 % (B) 55%
(C) 40.5 % (D) 56.25 % Quiz Mode Feature

19. The sum of even binomial coefficients in the expansion of $(a+x)^n$ is:

- (A) 2^{n-1} (B) 2^n
(C) 2^{n+1} (D) n^2

20. If a flat costs Rs.4500 per sq. ft, and a commercial space costs Rs.9500 per sq. ft, then what is the ratio of their areas if the total cost of both are the same?

- (A) 9:19 (B) 19:9
(C) 15:28 (D) 28:15

21. Area of a square with side x is equal to the area of a triangle with base x . The altitude of the triangle is: _____?

- (A) $x/2$ (B) x
(C) $2x$ (D) $4x$

22. I. $a^3 - 988 = 343$, II. $b^2 - 72 = 49$ to solve both the equations to find the values of a and b ?

- (A) If $a > b$ (B) If $a \geq b$
(C) If $a < b$ (D) If $a \leq b$

23. $8\frac{2}{3} + 6\frac{4}{5} =$ _____?

- (A) 14 (B) $14\frac{1}{2}$
(C) $14\frac{3}{4}$ (D) None of these

24. The areas of two similar triangles are 12 cm^2 and 48 Sq. cm . If the height of the smaller one is 2.1 cm then the corresponding height of the bigger one is _____?

- (A) 0.525 cm (B) 4.2 cm
(C) 80% (D) 60%

25. A man has some hens and cows. If the number of heads be 48 and the number of feet equals 140, then the number of hens will be _____?

- (A) 22 (B) 23
(C) 24 (D) 26

26. A cyclist covers a certain distance in 50 minutes at a speed of 24 kmph. To cover the same distance in 40 minutes, he should travel at a speed of _____?

- (A) 30 kmph (B) 27 kmph
(C) 25 kmph (D) 20 kmph

27. If the ratio of the areas of two squares is 9:1 ratio of their perimeters is _____?

- (A) 9:1 (B) 3:1
(C) 3:4 (D) 1:3

28. The sum of the digits of a two-digit number is 12. The difference of the digits is 6. Find the number?

- (A) 93 (B) 39
(C) 75 (D) 48
(E) Either (a) or (b)

29. A pupil's marks were wrongly entered as 83 instead of 63. Due to the average marks for the class got increased by half. The number of pupils in the class is _____?

- (A) 10 (B) 20
(C) 40 (D) 73

30. A 25 cm wide path is to be made around a circular garden having a diameter of 4 meters. Approximate area of the path is square meters is _____?

- (A) 3.34 (B) 2
(C) 4.5 (D) 5.5

31. Six points are marked on a straight line and five points are marked on another line which is parallel to the first line. How many straight lines, including the first two, can be formed with these points?

- (A) 29 (B) 32
(C) 55 (D) 30

32. A and B are two fixed points 5 cm apart and c is a point on AB such that AC = 3 cm. If the length of AC is increased by 6 % the length of CB is decreased by: _____?

- (A) 6 % (B) 7 %
(C) 8 % (D) 9 %

33. The difference between the length and breadth of a rectangle is 23 m. If its perimeter is 206 m, then its area is _____?

- (A) 1520 m² (B) 2420 m²
(C) 2480 m² (D) 2520 m²

34. Eight years ago, Zahid's age was $\frac{4}{3}$ times that of Shahid. Eight years hence, Zahid's age will be $\frac{6}{5}$ times that of Shahid. What is the present age of Zahid?

- (A) 30 years (B) 40 years
(C) 32 years (D) 48 years
(E) None of these

35. A box contains nine bulbs out of which 4 are defective. If four bulbs are chosen at random, find the probability that at least one bulb is good.

- (A) $6/63$ (B) $2/63$
(C) $125/126$ (D) $1/126$

36. A wheel makes 1000 revolutions is covering a distance of 88 km. the diameter of the wheel is

- (A) 14m (B) 24m
(C) 28m (D) 40m

37. Term involving as in the expansion of $(2/x - a)^9$ is

- (A) $5689a^4$ (B) $4032 a^2 / X^5$
(C) $895 a^4 / 86 / X^5$ (D) $682 a^4 / 9 X^3$

38. The average salary of all the workers in a workshop is Rs. 8000. The average salary of 7 technicians is Rs. 12000 and the average salary of the rest is Rs. 6000. The total number of workers in the workshop is _____?

- (A) 20 (B) 21
(C) 22 (D) 23

39. The perimeter of circle field and a square field are equal. If the area of these square field is $12100m^2$, the area of a circular field will be _____?

- (A) $15500Sq.m$ (B) $15400Sq.m$
(C) $15200Sq.m$ (D) $15300Sq.m$

40. The number of sequences in which 7 players can throw a ball, so that the youngest player may not be the last is -.

- (A) 4000 (B) 2160
(C) 4320 (D) 5300

41. There are four prime numbers written in ascending order of magnitude. The product of the first three is 7429 and of the last three is 12673. Find the fourth number?

- (A) 17 (B) 29
(C) 23 (D) 31

42. If in a box of dimensions 6 m * 5 m * 4 m smaller boxes of dimensions 60 cm * 50 cm * 40 cm are kept in it, then what will be the maximum number of the small boxes that can be kept in it?

- (A) 500 (B) 1000
(C) 900 (D) 600

43. A letter lock consists of three rings each marked with six different letters. The number of distinct unsuccessful attempts to open the lock is at the most _____?

- (A) 216
- (B) 243
- (C) 215
- (D) 729

44. A cistern has two taps which fill it in 12 min. and 15 min. respectively. There is one outlet pipe in the cistern. When all the taps & pipe are opened, the empty cistern is full in 20 min. How long will the waste pipe (outlet) take to empty the full cistern?

- (A) 10 min
- (B) 20 min
- (C) 30 min
- (D) 40 min

45. The radius of a wheel is 22.4 cm. What is the distance covered by the wheel in making 500 revolutions.

- (A) 252 m
- (B) 704 m
- (C) 352 m
- (D) 808 m

46. If $a > b$ and $b > a$. Then ?

- (A) $a = b$
- (B) $a \neq b$
- (C) Cannot be evaluated
- (D) None

47. A man can row 6 kmph in still water. When the river is running at 1.2 kmph, it takes him 1 hour to row to a place and back. How far is the place?

- (A) 3.12 km
- (B) 2.88 km
- (C) 3 km
- (D) 2 km

48. The area of a square is 4096 sq cm. Find the ratio of the breadth and the length of a rectangle whose length is twice the side of the square and breadth is 24 cm less than the side of the square.

- (A) 18 : 5
- (B) 7 : 16
- (C) 5 : 14
- (D) None of these

49. Find the one which does not belong to that group?

- (A) KMNL
- (B) PRSQ
- (C) VWYZ
- (D) JLMK
- (E) WYZX

50. The average of five numbers is 27. If one number is excluded, the average becomes 25. The excluded number is _____?

- (A) 25
- (B) 27
- (C) 30
- (D) 35

51. The length of a rope by which a cow must be tethered in order that she may be able to graze an area of 9856 sq.m is:_____?

- (A) 56m (B) 64m
(C) 88m (D) 168m

52. Find the quadratic equations whose roots are the reciprocals of the roots of $2x^2 + 5x + 3 = 0$?

- (A) $3x^2 + 5x - 2 = 0$ (B) $3x^2 + 5x + 2 = 0$
(C) $3x^2 - 5x + 2 = 0$ (D) $3x^2 - 5x - 2 = 0$

53. If the arithmetic mean of seventy five numbers is calculated, it is 35. If each number is increased by 5, then mean of new number is _____?

- (A) 30 (B) 40
(C) 70 (D) 90

54. What is the ratio between perimeters of two squares one having 3 times the diagonal then the other?

- (A) 4:8 (B) 1:4
(C) 6:2 (D) 3:1

55. Find the smallest number which when increased by 5, divisible by 6, 9, 15, 20 and 24?

- (A) 344 (B) 355
(C) 366 (D) 377

56. If 35% of a number is 12 less than 50% of that number, then the number is _____?

- (A) 40 (B) 50
(C) 60 (D) 80

57. The area of a triangle is with base 4m and height 5m?

- (A) 20 sq m (B) 10 sq m
(C) 5 sq m (D) 3 sq m

58. A group of 10 representatives is to be selected out of 12 seniors and 10 juniors. In how many different ways can the group be selected if it should have at least one senior?

- (A) ${}^{22}C_{10}$ (B) ${}^{22}C_{10} + 1$
(C) ${}^{22}C_9 + {}^{10}C_1$ (D) ${}^{22}C_{10} - 1$ Quiz Mode Feature

59. P can lay railway track between two stations in 16 days. Q can do the same job in 12 days. With the help of R, they complete the job in 4 days. How much days does it take for R alone to complete the work?

- (A) $9\frac{3}{5}$ days (B) $9\frac{1}{5}$ days
(C) $9\frac{2}{5}$ days (D) 10 days

60. A room is 6 meters 24 centimeters in length and 4 meters 32 centimeters in width. Find the least number of square tiles of equal size required to cover the entire floor of the room?

- (A) 110 (B) 124
(C) 96 (D) 117

61. Find the roots of the quadratic equation: $x^2 + 2x - 15 = 0$?

- (A) -5, 3 (B) 3, 5
(C) -3, 5 (D) -3, -5

62. A car is running at a speed of 108 kmph. What distance will it cover in 15 seconds ?

- (A) 45 metres (B) 55 metres
(C) 450 metres (D) Cannot be determined

63. A rectangular farm has to be fenced one long side, one short side and the diagonal. If the cost of fencing is Rs.10 per meter. The area of farm is 1200 m² and the short side is 30 m long. How much would the job cost?

- (A) Rs.700 (B) Rs.1200
(C) Rs.1400 (D) Rs.1500

64. The sum of the squares of two consecutive positive integers exceeds their product by 91. Find the integers?

- (A) 9, 10 (B) 10, 11
(C) 11, 12 (D) 12, 13

65. There would be 10% loss if a toy is said at Rs. 10.80 per piece. At what price should it be sold to earn a profit of 20%?

- (A) Rs. 12 (B) Rs. 12.96
(C) Rs. 14.40 (D) None of these

66. What is the volume of a cube (in cubic cm) whose diagonal measures $4\sqrt{3}$ cm ?

- (A) 8 (B) 16
(C) 27 (D) 64

67. Find the one which does not belong to that group ?

- (A) Tiruvananthapuram (B) Hyderabad
(C) Calicut (D) Bangalore
(E) Bhubaneswar

68. If Arif can read 39 pages of a book in half an hour. How long will It take her to finish a book that is 1287 pages?

- (A) 16 Hours (B) 16.5 Hours
(C) 17 Hours (D) 15.5 Hours

69. parallelogram has sides 60 m and 40 m and one of its diagonals is 80 m long then its area is: _____?

- (A) 480 sq.m
(B) 320 sq.m
(C) $600\sqrt{15}$ sq.m
(D) $450\sqrt{15}$

70. If $17xy+7=19xy$, then $4xy = ?$

- (A) 2
(B) 3
(C) $1/2$
(D) 14

71. Find the fourth proportion to 3, 7 and 9.

- (A) 63
(B) 31
(C) 21
(D) 27

72. What is the are of an equilateral triangle of side 16 cm?

- (A) $48\sqrt{3}$ cm²
(B) $128\sqrt{3}$ cm²
(C) $9.6\sqrt{3}$ cm²
(D) $64\sqrt{3}$ cm²

73. The term independent of x in the expansion of $(\sqrt{x/3} + \sqrt{3/2}x^2)$ is:

- (A) C1
(B) $5/12$
(C) C. 1
(D) None of these

74. Certain quantity of food is sufficient for certain number of men for 13 days. After 1 day $2/5$ of them desert how long will the food now last?

- (A) 20 days
(B) 25 days
(C) 18 days
(D) 16 days

75. The length of the longest rod that can fit in a cubical room of 4 m side is?

- (A) 8.66 m
(B) 5.196 m
(C) 6.928 m
(D) 7.264 m

76. In how many different ways can four books A, B, C and D be arranged one above another in a vertical order such that the books A and B are never in continuous position?

- (A) 9
(B) 12
(C) 14
(D) 18

77. A horse and a cow were sold for Rs. 12000 each. The horse was sold at a loss of 20 % and the cow at a gain of 20 %. The entire transaction resulted in _____?

- (A) No loss or gain
(B) Loss of Rs. 1000
(C) Gain of Rs. 1000
(D) Gain of Rs. 2000

78. The diameters of two spheres are in the ratio 1:2 what is the ratio of their surface area?

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

79. In a three digit number, the hundred digit is 2 more than the tens digit and the units digit is 2 less than the tens digit. If the sum of the digits is 18, find the number?

- (A) 975
- (B) 753
- (C) 642
- (D) 684
- (E) None of these

80. The marked price of a watch was Rs. 720. A man bought the same for Rs. 550.80, after getting two successive discounts, the first 10%. What was the second discount rate ?

- (A) 12%
- (B) 14%
- (C) 15%
- (D) 18%



Physics

60 MCQs

81. Metals are good conductors of electricity because they contain:

- (A) Large number of freely mobile electrons
- (B) A large number of bound electrons
- (C) A small number of free electrons
- (D) A small number of bound electrons

82. The unit for electric charge is the coulomb, and one Coulomb in terms of the base unit is equivalent to:

- (A) Am
- (B) Js-1
- (C) As
- (D) C

83. Two vectors A and B are making angle θ with each other. The scalar product of vector B on vector A is written as.

- (A) $\cos\theta$
- (B) $A \cdot B / B$
- (C) $A \cdot B / A$
- (D) $\sin\theta$

84. A Solenoid is formed by winding:

- (A) Wire in a helix around a box
- (B) Wire in a helix around a cylindrical surface
- (C) Wire in a helix on a plain surface
- (D) Cannot be made using wire

85. In power loss in a capacitor in A.C circuit is:

- (A) $P > V^{\circ}I^{\circ}$
- (B) $\langle P \rangle = V^{\circ}I^{\circ} \sin \theta$
- (C) $\langle P \rangle = V^{\circ}I^{\circ} \cos \theta$
- (D) $\langle P \rangle = \text{zero}$

86. Einstein's photoelectric equation is given by:

- (A) $hf - \phi = \frac{1}{2}mv^2$
- (B) $E = hc^2$
- (C) $E = mc^2$
- (D) $hf = \frac{1}{2}mv^2$

87. The unit of Electric field intensity is:

- (A) Volt/metre
- (B) Newton/coulomb
- (C) Joule/Coulomb.metre
- (D) volt.metre

88. The path traced by beta particles in air is:

- (A) Straight
- (B) Erratic
- (C) Circular
- (D) Elliptical

89. At the triple point of water, the pressure of a gas is 2680 Pa, by changing 'T' the pressure increases to 4870 Pa. Then 'T' is:

- (A) 496.38 K
- (B) 438.96 K
- (C) 0
- (D) 496.38 oF

90. When released from a height a ball falls 5m in 1s. In 4s after release the ball will fall:

- (A) 40m
- (B) 80m
- (C) 20m
- (D) 100m

91. Resistance of a wire is r ohms. The wire is stretched to double its length, then its resistance is ohms is:

- (A) $r/2$
- (B) $4r$
- (C) $2r$
- (D) $r/4$

92. In Young's Double slit experiment, if the spacing between the slit is doubled and the linear distance from the screen is reduced to one-half then the spacing between the two adjacent bright fringes will be _ of the actual value.

- (A) Remains same.
- (B) Reduce to one half.
- (C) Reduce to one quarter.
- (D) Increase to twice.

93. If an amount of work ΔW is done by an agent in time interval Δt , the power of that agency Will be:

- (A) $\Delta W / \Delta t$
- (B) $\Delta t / W \Delta$
- (C) $\Delta t / \Delta W$
- (D) $\Delta W + \Delta t$

94. In a coil, when current changes from 10 A to 4 A in 1 s. An induced emf of 1.2 V is induced across the coil. The self - inductance of the coil is:

- (A) 2 H
- (B) 0.2 H
- (C) 0.002 H
- (D) 5 H
- (E) 6 H

95. A moon rotates about its axis. In the future, scientists may wish to put a satellite into an orbit around the moon such that the satellite remains stationary above one point on moon surface, the period of rotation of moon about its axis is 27.4 days, what is the radius of required orbit? Mass of the moon = 7.35×10^{22} kg

- (A) 3.59×10^7 m
- (B) 4.23×10^7 m
- (C) 8.86×10^7 m
- (D) 6.96×10^6 m

96. 1 radian =

- (A) 53.70
- (B) 73.50
- (C) 57.30
- (D) 37.5°

97. When monochromatic light of wavelength 5.0×10^{-7} m is incident normally on a plane diffraction grating, the second order diffraction lines are formed at angles of 30° to the normal to the grating. What is the number of lines per millimeter of the grating?

- (A) 250
- (B) 500
- (C) 1000
- (D) 4000

98. Elections remained as minority carriers in the material:

- (A) N-type
- (B) P-type
- (C) Conductor
- (D) All of the above

99. The Balmer series of hydrogen spectrum appears in the

- (A) Infrared region
- (B) Ultraviolet region
- (C) X-ray region
- (D) Visible region

100. When fluid is incompressible, the quantity is constant.

- (A) Mass
- (B) Density
- (C) Pressure
- (D) Force

101. The area under the extension-load graph Of an elastic material whose elastic limit has not been exceeded gives its:

- (A) Stress
- (B) Strain energy
- (C) Strain
- (D) Young modulus

102. The prefix 'tera' stands for

- (A) 10^4
- (B) 10^9
- (C) 10^{-6}
- (D) 10^{12}

103. How are the two vectors of the same magnitude oriented to get a resultant of the same magnitude?

- (A) 90°
- (B) 60°
- (C) 45°
- (D) 120°

104. The value of permeability of free space μ_0 is:

- (A) $4\pi \times 10^{-7} \text{ WbA}^{-1}\text{m}^{-1}$
- (B) $4\pi \times 10^2 \text{ WbA}^{-2}\text{m}^{-2}$
- (C) $4\pi \times 10^{-7} \text{ WbA}^{-2}\text{m}^{-1}$
- (D) $4\pi \times 10^2 \text{ WbA}^{-1}\text{m}^{-2}$

105. The radio waves of constant amplitude are called:

- (A) Modulated waves
- (B) Carrier waves
- (C) Standing waves
- (D) Rectified waves

106. Which of the following is the best evidence for the wave nature of matter?

- (A) The photoelectric effect
- (B) The Compton effect
- (C) The spectral radiation from cavity radiation
- (D) The reflection of electrons by crystal

107. The negative gradient of electric potential is also called:

- (A) Potential energy
- (B) Electric field intensity
- (C) Electric potential difference
- (D) Electron-volt

108. A source contains initially N_0 nuclei of a radioactive nuclide. How many of these nuclei have decayed after a time interval of three half-lives?

- (A) $N_0/8$
- (B) $2N_0/3$
- (C) $N_0/3$
- (D) $7N_0/8$

109. For a gas having molar mass M , specific heat at constant pressure per gm of gas is given by:

- (A) $C_p = C_v + R/M$
- (B) $C_p = R/C_v$
- (C) $C_p = \gamma * R$
- (D) $C_p = C_v * M$

110. A force of 2000 dynes is applied to a mass of 250gm. What acceleration would be obtained?

- (A) 25
- (B) 20
- (C) 16
- (D) 8

111. Several resistors are connected in parallel the resistance of their equivalent resistor will:

- (A) Increase
- (B) Decrease
- (C) Not change
- (D) None of these

112. A 2m long pipe is open at both ends. What is its harmonic frequency?

- (A) 42.5 Hz
- (B) 85 Hz
- (C) 220 Hz
- (D) None of these

113. The area under a force-displacement graph gives:

- (A) Displacement
- (B) Power
- (C) Acceleration
- (D) Work

114. A copper hoop is held in a vertical east-west plane in a uniform magnetic field whose field lines run along the north-south direction. The largest induced emf is produced when the hoop is.

- (A) Rotated about a north-south axis
- (B) Rotated about an east-west axis
- (C) Moved rapidly, without rotation toward the east
- (D) Moved rapidly, without rotation toward the south

115. The escape velocity corresponds to _ energy gained by the body, which carries it to an infinite distance from the surface of earth.

- (A) Total
- (B) Potential
- (C) Initial kinetic
- (D) None of these

116. The moment of inertia of a solid sphere of mass 'm' having radius 'r' about a line passing through its center is:

- (A) $\frac{5}{2} mr^2$
- (B) $\frac{2}{5} mr^2$
- (C) $\frac{1}{2} mr^2$
- (D) $\frac{1}{3} mr^2$
- (E) mr^2

117. When a beam of light traveling in a rare medium is reflected from a denser medium it:

- (A) Suffers no phase change
- (B) Undergoes a phase change of 180°
- (C) Undergoes a phase change of 270°
- (D) Undergoes a phase change of 90°

118. In LED when an electron combines with a _ during forward bias conduction, a photon of visible light is emitted.

- (A) High voltage.
- (B) Photon.
- (C) Hole.
- (D) Positron.

119. If an atom exists in excited state $n = 3$ the number of transitions that take place is

- (A) 1
- (B) 3
- (C) 2
- (D) 4

120. In Milikan's Method, the radius of droplet can be calculated by:

- (A) $r = \sqrt{qvt / 2pg}$
- (B) $r^2 = 9\eta vt / pg$
- (C) $r^2 = 9\eta vt / 2pg$
- (D) $r = 9\eta vt / 2pg$

121. Choose the anisotropic behavior

- (A) Coefficient of thermal expansion
- (B) Lattice energy
- (C) Viscosity
- (D) Infrared spectroscopy

122. The dimensions of angular acceleration are:

- (A) T-2
- (B) LT-2
- (C) LT-1
- (D) M1T-2

123. If the resultant of two vectors each of magnitude F is also of magnitude F, the angle between them is:

- (A) 60 degrees
- (B) 90 degrees
- (C) 120 degrees
- (D) 130 degrees

124. A long solenoid has length L and total number of N turns, each of which has a cross-sectional area A, its inductance is:

- (A) $\mu_0 N^2 A L$
- (B) $\mu_0 N^2 A / L$
- (C) $\mu_0 N^2 L / A$
- (D) $\mu_0 N L / A$

125. Which of the following electromagnetic waves has the smallest wavelength?

- (A) X-rays
- (B) Gamma rays
- (C) Microwaves
- (D) Ultraviolet rays

126. For intermediate energy of radiations, the dormant process is:

- (A) Compton Effect
- (B) Photoelectric Effect
- (C) Nuclear Effect
- (D) Pair Production

127. The force on an electron in the electric field of 10^8 NC^{-1} is

- (A) 1.6×10^{-4}
- (B) 1.6×10^{-8}
- (C) 1.6×10^{-10}
- (D) 1.6×10^{-11}

128. A certain radioactive mass decays from 64 gm to 2 gm in 20 days. What is its half - life?

- (A) 5 days
- (B) 4 days
- (C) 10 days
- (D) 6 days

129. The first law of thermodynamics can be expressed mathematically as:

- (A) $\Delta\theta = \Delta u + \Delta w$
- (B) $\Delta\theta = \Delta u$
- (C) $\Delta\theta = \Delta w$
- (D) None

130. In a perfectly elastic collision:

- ☐ A Only momentum is conserved
- ☐ B Only total energy is conserved
- ☐ C Only kinetic energy is conserved
- ☐ D Momentum, kinetic energy, and total energy are all conserved.

131. Ohm's law is valid only for currents following in:

- ☐ A Metallic conductor
- ☐ B Transistors
- ☐ C Diodes
- ☐ D Electric arcs

132. Monochromatic light passes through two parallel slits in a screen and falls on a place of film. The pattern produced is an example of:

- ☐ A Refraction and diffraction
- ☐ B Interference and reflection
- ☐ C Interference and diffraction
- ☐ D Diffraction and polarization

133. If the momentum of a body decreases by 20% the percentage decrease in K.E will be:

- ☐ A 44%
- ☐ B 36%
- ☐ C 28%
- ☐ D 20%

134. If the motor is overloaded then the magnitude of back e.m.f:

- ☐ A Increase
- ☐ B Decrease
- ☐ C Becomes Zero
- ☐ D Remains constant

135. An object in a satellite orbiting around the Earth is weightless because:

- ☐ A $g=0$
- ☐ B It is falling freely
- ☐ C No force acts on it
- ☐ D It is far away from the earth

136. Angle that a body traverses at the centre of a circle in two turns is:

- ☐ A 180 degrees
- ☐ B 360 degrees
- ☐ C 540 degrees
- ☐ D 720 degrees

137. The extent of bonding of a light ray after passing through prism depends upon:

- ☐ A Wavelength of photons
- ☐ B Wave number of photons
- ☐ C Energy of photons
- ☐ D Frequency of photons

138. A logic gate has four inputs. Its possible input combinations will be:

- ☐ A 4
- ☐ B 16
- ☐ C 32
- ☐ D 64

139. The continuous spectrum of X-rays is formed due to:

- ☐ A Characteristics of X-rays
- ☐ B Bremsstrahlung X-ray
- ☐ C Soft X-ray
- ☐ D Hard X-ray

140. Water flows through a constriction in horizontal pipe as it enters the constriction, the water's:

- (A) Speed increases and pressure remains constant
- (B) Speed increases and pressure increase
- (C) Speed increases and pressure decreases
- (D) Speed decreases and pressure Increases



Chemistry

30 MCQs

141. Coagulation of proteins may be caused by:

- (A) Heat
- (B) Change in pH
- (C) Heavy metal salts
- (D) All of the above

142. How many molecules are present in 0.20 g of Hydrogen gas? Select the correct option.

- (A) $0.20 \times 3.01 \times 10^{23}$
- (B) 0.20×2.016
- (C) $0.70 \times 6.02 \times 10^{23}$
- (D) $1.008 \times 6.02 \times 10^{23}$

143. Homocyclic organic compounds are sub divided into two types namely:

- (A) Alicyclic and Aromatic
- (B) Open chain and branched chain
- (C) Aromatic and non-aromatic
- (D) Antiaromatic and antialicyclic

144. Which type of solid is called as atomic solid?

- (A) Covalent solids
- (B) Ionic solids
- (C) Metallic solids
- (D) Molecular solids

145. Which one of the following is electron deficient compounds :

- (A) NH_3
- (B) PH_3
- (C) PCl_3
- (D) BCl_3

146. What is the ionic strength of 0.01M barium chloride solution :

- (A) 0.03
- (B) 0.02
- (C) 0.04
- (D) 0.01

147. The volume occupied by 1.6 g of O_2 at S.T.P is:

- (A) 2.24 dm^3
- (B) 1.12 dm^3
- (C) 22.4 dm^3
- (D) 24 dm^3

148. The instrument that is used to determine the weight of a proton as well as a positive ion and is capable of recording its result as the photograph is called:

- (A) Mass spectroscope
- (B) Atomic spectroscope
- (C) Spectrophotographic analyzer
- (D) Spectrophotometer

149. Ammonium hydroxide was added to a salt solution, and a deep blue color was obtained. The solution contains ions of:

- (A) Zn^{2+}
- (B) Cu^{2+}
- (C) Fe^{2+}
- (D) Ba^{2+}

150. Aldehydes can be synthesized by the oxidation of:

- (A) Primary alcohols
- (B) Secondary alcohols
- (C) Organic acids
- (D) Inorganic acids

151. If an atom exists in the excited state $n = 5$, the maximum number of transitions that take place are:

- (A) 6
- (B) 5
- (C) 10
- (D) 3

152. For which of the following order of the reaction, rate of reaction is inversely proportional to the concentration reaction?

- (A) 1st order reaction
- (B) 2nd order reaction
- (C) Negative order of reaction
- (D) Zero order of reaction

153. Which of the following factor does not affect the magnitude of vapor pressure?

- (A) amount of liquid
- (B) size of molecule
- (C) temperature of liquid
- (D) intermolecular forces

154. The oxidation number of iron in $(Fe(CN)_6)^{4-}$ is:

- (A) +3
- (B) +2
- (C) +4
- (D) +6

155. The process of filtration is used to separate particles _ from liquids.

- (A) Radial.
- (B) Angular.
- (C) Insoluble.
- (D) Soluble

156. Which form of matter possesses a higher magnitude of internal energy?

- (A) Gaseous matter
- (B) Solid matter
- (C) Liquid matter
- (D) all have the same magnitude

157. _ are product of reaction of an alcohol and aromatic bi-functional acids.

- (A) Acrylic resins
- (B) Polyester resins
- (C) PVCs
- (D) Polyamide resins

158. Which one of the following is an appropriate name for the compound given below?

- (A) 1,3,6-Trinitrophenol
- (B) m-Nitrophenol
- (C) Tartaric acid
- (D) Picric acid

159. Tetraethyl lead ($\text{C}_2\text{H}_5\text{Pb}$) is used as an antiknock agent and abandoned because of its hazardous product during the combustion of fuel. The hazardous product is

- (A) CO_2
- (B) CO
- (C) Lead
- (D) Free radical ethyne (C_2H_2)

160. The protonation of carboxylic acid is:

- (A) Option A
- (B) Option B
- (C) Option C
- (D) Option D

161. Liquid Ammonia has become an important fertilizer for direct application to soil. It contains _____ Nitrogen.

- (A) 46%
- (B) 82%
- (C) 14%
- (D) 17%

162. Hydrolysis of cyano group by an aqueous acid results into:

- (A) Carboxylic Acid
- (B) Acid Amide
- (C) Cyanohydrin
- (D) Formaldehyde

163. The inert form of carbon is:

- (A) Diamond
- (B) Graphite
- (C) Coal
- (D) Charcoal

164. Acetophenone can be formed by which of the following reaction of benzene?

- (A) Alkylation
- (B) Halogenation
- (C) Nitration
- (D) Acylation

165. Which one is a strong nucleophile:

- (A) $\text{C}_6\text{H}_5\text{O}^-$
- (B) H_2O
- (C) NH_3
- (D) $\text{C}_2\text{H}_5\text{O}^-$

166. To what category of molecules do enzymes belong?

- (A) Carbohydrates
- (B) Proteins
- (C) Lipids
- (D) Fats

167. 1 amu is equal to $1.661 \times 10^{-24}\text{g}$, then 1.0 g will be equal to:

- (A) 6.022×10^{23} amu
- (B) 6.022×10^{-23} amu
- (C) 6.022×10^{-24} amu
- (D) 6.022×10^{24} amu

168. Compounds having the $-\text{CN}$ group are called:

- (A) Cyano compounds
- (B) Nitro compounds
- (C) Carbon nitrogen compounds
- (D) Nitriles

169. Which one of the following compounds has a sharp melting point?

- (A) Pure $C_6H_{22}O_6$
- (B) Impure NaCl
- (C) Glass
- (D) Mixture of the above two

170. Which one is non-polar but contains polar bonds:

- (A) HCl
- (B) HF
- (C) H_2O
- (D) CO_2



English

20 MCQs

171. Fill in the blank with the correct option: He _ on a very extraordinary ambition.

- (A) arrived
- (B) decided
- (C) came
- (D) hit

172. In the following question four alternative sentences are given. Choose the CORRECT option:

- (A) The parent who I have offended often come around after a term of years and tell me that his son was right.
- (B) The parent who I have offended often comes around after a term of years and tell me that his son was right.
- (C) The parents whom I have offended often comes around after a term of years and tells that his son was right.
- (D) The parent whom I have offended often comes around after a term of years and tells me that his son was right.

173. Choose the correct option:

- (A) Hand up the answer sheet to me.
- (B) Hand over the answer sheet to me.
- (C) Hand down the answer sheet to me.
- (D) Hand for the answer sheet to me.

174. My advice had no _ on him.

- (A) Effect
- (B) Affect
- (C) Influence
- (D) Impression

175. Identify the errors and choose the correct option: I hope this letters finds in the best of your spirits.

- (A) I hope this letter will find you in good of high spirits.
- (B) I hope this letter finds you in the best of your spirit.
- (C) I hope letter finds you in the best of spirits.
- (D) I hope the letter found in greatest of sprite.

176. The building with numerous arhes looked _ in the midnight.

- (A) Brightly (B) Splendidly
(C) mysteriously (D) magnificent

177. FORGO is closest in meaning to:

- (A) Run away (B) Do without
(C) Safeguard (D) Precede

178. _ you like a cup of coffee?

- (A) May (B) Shall
(C) Can (D) Would

179. In each of the following question, four alternative sentences are given. Choose the CORRECT one and fill the Circle corresponding to that letter in the MCQ Responsen Form.

- (A) As she said the computer was programmed by Mona.
(B) Just like she said the computer was programmed by Mona.
(C) As like she said the computer was programmed by Mona.
(D) Just like she had she said the computer was programmed by Mona.

180. Waeem _ him MD for many years, but he is rather unhappy with his salary.

- (A) is working in (B) is serving
(C) is working for (D) has been working

181. Pakistan has to fight _ to win the test series from India:

- (A) Dagger and Sword (B) Lame and Lime
(C) Tooth and Nail (D) Sweat and Water

182. Identify the MISTAKE in the following question: When When he was a child, every time he were naughty, his foster mother used to threaten to send him to Timbuktu.

- (A) He was (B) He were
(C) Used to (D) To send him

183. Choose the sentence that is grammatically correct:

- (A) He weighed himself maunds. (B) He weighed two maunds.
(C) He weighed themselves two. (D) He weighed itself two maunds.

184. The number of friends and family members at the party _ amazing.

- (A) Was (B) Were
(C) Had (D) Have had

185. He _ the incident to the back of his mind.

- (A) Revered
- (B) Regulated
- (C) Reagitated
- (D) Relegated

186. I have no _ to listen to the budget speech.

- (A) Trouble
- (B) Convenience
- (C) Patience
- (D) Perseverance

187. Identify the error in the sentence. The chef quickly prepared, delicious and it served a meal.

- (A) Punctuation
- (B) Style
- (C) Vocabulary
- (D) Word order

188. Pick the sentence with correct punctuation:

- (A) He had one motto "serving humanity."
- (B) He, had one motto, serving humanity.
- (C) He had one motto; serving humanity.
- (D) He had one motto: serving humanity.

189. In each of the following question, four alternative meanings of a word are given. You have to select the nearest correct meaning of the given word and fill the appropriate. Enmeshed

- (A) Sojourn
- (B) Entangled
- (C) Gallows
- (D) Cascade

190. Read the passage and answer the questions given at the end; Efforts should be made to control the use of tobacco in the campuses of educational institutions because it is gateway to drug abuse. Most of the youth usually starts with soft drugs like cigarettes, chhaliya, gutka, naswar and pan, and then move to hard drugs like heroin, opium, cocaine, ke and sheesha, etc. People who start-smoking cigarettes of drink alcohol at a young age are much more likely to experiment with illegal drugs than people who do not smoke of drink. According to this paragraph

- (A) Educational institutions are gateways to the control of tobacco
- (B) Youth who starts with soft drugs are likely to experiment with illegal drugs
- (C) People who do not smoke or drink are less-likely, to experiment with illegal drugs
- (D) People who start smoking at a young age are less likely to experiment with illegal drugs



Analytical and Logical Reasoning

10 MCQs

191. The rates of interest on Post office recurring deposit accounts have been increased with effect from 1st March. This has been done to attract more deposits. Course of Action I. Efforts should also be made to make the public aware about this increase in the rate of Interest. II. If the deposits don't increase in next six months, the rate of interest should be further Increased.

- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Neither I nor II follows
- (D) Both conclusions I and II follow

192. A series is given with missing terms. Choose the correct alternative from the given ones that will complete the series. 4E, 8I, 13N, 19T, ?

- (A) 26U
- (B) 26A
- (C) 26Z
- (D) 25Y
- (E) 25A

193. Asad bought 50 packets of biscuits for the price of Rs. 500, whereas Anum bought 25 packets of chips for the price of Rs. 1000. While comparing the prices of packets of biscuits and packet of chips, which of the following statements is correct?

- (A) Price of 4 packets of biscuits is equal to the price of 1 packet of chips
- (B) Price of 1 packet of biscuits is equal to the price of 4 packets of chips
- (C) Price of 2 packets of biscuits is equal to the price of 1 packet of chips
- (D) Price of 1 packet of biscuits is equal to the price of 2 packets of chips

194. If the stay of 6 men for 14 days in a hotel costs Rs. 3360, find the cost for stay of 4 men for 7 days in the same hotel?

- (A) 823
- (B) 1120
- (C) 1372
- (D) 2520

195. UDOMETER is coded as DUMOTERE then how will SUBLEASE be coded?

- (A) USBAELES
- (B) USLBESAE
- (C) USLBAEES
- (D) USLBEAES

196. I. The literacy rate in the district has been increasing. II. The district administration has conducted extensive training program for the workers involved in the literacy drive.

- (A) Statement I is the cause and statement II is its effect
- (B) Statement II is the cause and statement I is its effect
- (C) Both the statements I and II are independent causes
- (D) Both the statements I and II are effects of independent cause

197. Read the following statements and decide about the arguments. Statement: Does Pakistan need so many plans for development? Arguments: I. Yes. Nothing can be achieved without proper planning. II. No. Too much time, money and energy is wasted on planning.

- (A) Only I is true (B) Only II is true
(C) Either I or II is true (D) Neither I nor II is true

198. All daffodils are plants. All plants are living things. Some living things are real. Conclusions: I. All daffodils are living things. II. Some living things are flowers. III. All daffodils are real. Which conclusions follow?

- (A) Only I (B) Only I and II
(C) Only II and III (D) All follow

199. In the following question, a statement is given followed by four inferences. You have to decide which of the given Inferences can definitely be drawn from the given statement. Indicate your answer. Statement: Most dresses in that shop are expensive. Inferences: I. Some dresses in that shop are expensive. II. There are cheap dresses also in that shop. III. Handloom dresses in that shop are cheap. IV. There are no cheap dresses available in that shop.

- (A) Only I follows (B) Only II follows
(C) Only III follows (D) Only IV follows
(E) None follows

200. P and Q are M's parents. M and N are siblings. Q is N's mother. What is P to M?

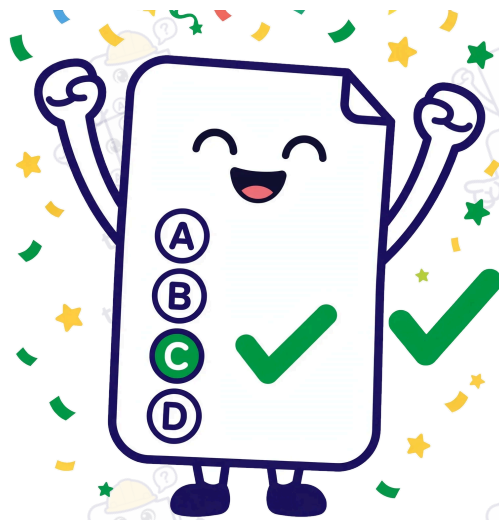
- (A) Mother (B) Father
(C) Sister (D) Brother

Answer key

Tap any answer to open its full explanation on TestUstad.

Model Paper 1

1	D	2	B	3	B	4	B	5	A	6	B	7	D	8	D	9	A	10	D
11	B	12	B	13	A	14	C	15	D	16	E	17	D	18	D	19	A	20	B
21	C	22	B	23	D	24	B	25	D	26	A	27	B	28	E	29	C	30	A
31	B	32	D	33	D	34	B	35	C	36	C	37	B	38	B	39	B	40	C
41	B	42	B	43	C	44	A	45	B	46	C	47	B	48	D	49	C	50	D
51	A	52	B	53	B	54	D	55	B	56	D	57	B	58	D	59	A	60	D
61	A	62	C	63	B	64	A	65	C	66	D	67	C	68	B	69	C	70	D
71	C	72	D	73	D	74	A	75	C	76	B	77	B	78	B	79	E	80	C
81	A	82	C	83	C	84	B	85	D	86	A	87	B	88	B	89	A	90	B
91	B	92	C	93	A	94	B	95	C	96	C	97	B	98	B	99	D	100	B
101	B	102	D	103	D	104	A	105	B	106	D	107	B	108	D	109	A	110	D
111	B	112	B	113	D	114	B	115	C	116	B	117	B	118	C	119	B	120	C
121	A	122	A	123	C	124	B	125	B	126	A	127	D	128	B	129	A	130	D
131	A	132	C	133	B	134	B	135	C	136	D	137	A	138	B	139	B	140	C
141	C	142	A	143	A	144	A	145	D	146	D	147	A	148	A	149	B	150	A
151	C	152	B	153	A	154	B	155	C	156	A	157	B	158	D	159	C	160	B
161	B	162	A	163	A	164	D	165	B	166	B	167	A	168	D	169	A	170	D
171	D	172	D	173	B	174	A	175	B	176	D	177	B	178	D	179	A	180	D
181	C	182	B	183	B	184	A	185	D	186	C	187	D	188	D	189	B	190	C
191	D	192	C	193	A	194	B	195	C	196	B	197	A	198	A	199	B	200	B



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