NARAYANA
IIT-JEE/NEET/FOUNDATION
JAIPUR CENTER

46 YEARS OF EXCELLENCE

N-ASAT

NARAYANA ADMISSION & SCHOLARSHIP APTITUDE TEST

SAMPLE TEST PAPER

CLASS 9 (MOVING TO 10)

Your Gateway to Desired Success in

JEE (Main+Adv) / NEET

GENERAL INSTRUCTIONS:

This test paper contains **75 Multiple choice questions**. Each questions have four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct. For every correct answer **4 marks** are awarded and for wrong answer there is a negative marking of **1 mark**. No marks awarded for unattempted questions.

REASONING ABILITY

1. Complete the series:

   D3Y104, G9U91, J27Q78, M81M65

   (A) P2 43I39 (B) Q243I52

   (C) P243I52 (D) Q162J39

2. What comes next in the following sequence of codes?

   1218199, 1006480, 814963, 643648, _____

   (A) 366478 (B) 1442560

   (C) 492535 (D) 253634

3. If prime numbers are assigned to English alphabets from A to Z in order MAT will be:

   (A) 31 1 67 (B) 41 1 67 (C) 37 2 71 (D) 41 2 71

4. In the following question, a matrix of certain numbers is given. These numbers follow a certain trend, either row-wise or column-wise. Find this trend and choose the missing number from the given alternatives

1	5	7	75
8	3	4	?
9	7	8	194

   (A) 20 (B) 43 (C) 89 (D) 96

5. In the given sequence, some letters are missing. Which of the given options can fill the blanks in the correct order from left to right?

   ab_ab_aaa_bbaaa_bbbb

   (A) abab (B) abba (C) aabb (D) baba

6. If A, B, C, D are distinct decimal digits, then which of the following options is correct?

$$\begin{array}{r} A\ 4\ B\ C \\ \times\ C \\ \hline 1\ A\ 1\ D\ C \end{array}$$

   (A) A = 3 B = 7 C = 5 D = 9 (B) A = 2 B = 3 C = 6 D = 5

   (C) A = 3 B = 8 C = 6 D = 5 (D) A = 2 B = 3 C = 5 D = 7

7. Choose appropriate option from given alternatives such that the relationship defined by':' is preserved.

PNLJ: LIFC and VTRP: _____.

(A) ROLI (B) SOLH

(C) RPOM (D) DMEN

8. Which of the following alternatives will fit in place of 'M'?

255, 3610, 4915, M, 8125

(A) 5100 (B) 5420

(C) 6420 (D) 6422

9. In the following question number of triangle are:

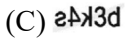
(A) 21 (B) 23

(C) 25 (D) 27

10. What is the mirror image of b3k4s I?

b3k4s | ?

(A)  (B)

(C)  (D)

11. Mother was asked how many gifts she had in the bag. She replied that there were all dolls but six, all cars but six, and all books but six. How many gifts had she in all?

(A) 9 (B) 18

(C) 27 (D) 36

12. A is the uncle of B who is the daughter of C and C is daughter-in-law of P. How is A related to P?

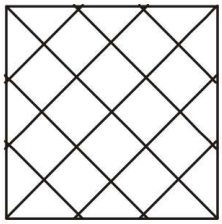
(A) Brother (B) Nephew

(C) Cousin (D) Son

13. In a group of dogs and crows the number of legs is more than 2 times the number of Heads by 20. Find the number of dogs?

(A) 10 (B) 20 (C) 25 (D) 33

14. Find the number of triangles in the figure



(A) 28 (B) 32

(C) 36 (D) 40

15. If AR = 36, CM = 78, GP = 224, then ES = _____

(A) 364 (B) 150

(C) 190 (D) 320

16. If $\frac{56}{31} = 10$ and $\frac{48}{18} = 4$ then $\frac{64}{16}$ _____

(A) 3 (B) 4

(C) 5 (D) 6

Direction: (17 to 19) There are eight people A, B, C, D, E, F, G and H sitting around a circular table facing centre. B is sitting second to the left of G who is sitting third to the right of F. Only E is sitting between A and C. C is sitting third to the left of B. Only one person is sitting between E and H.

17. Which of the following is correct?

(A) *D* is sitting third to the left of *H* (B) *F* is sitting third to the left of *G*

(C) *C* is sitting to the left of *D* (D) H is sitting second to the right of C

18. Based on the given information, which of the following is the correct position?

(A) A and *C* are sitting next to each other

(B) F and *G* are sitting next to each other

(C) H and F are sitting next to each other

(D) D is sitting next to H

19. Which of the following is the correct order of sitting of person's right of *A* ?

(A) E C H D G B F (B) E C H F B D G

(C) E B H D C F G (D) C H B E D G F

20. One evening Prakash and Swami are sitting in a park face to face. If Prakash's shadow is falling on Swami's left, then which direction is Swami facing?

(A) South (B) East

(C) West (D) North

21. Correct the following equations by interchanging two signs.

$5 - 9 \times 45 + 15 \div 3 = 5$

(A) + and – (B) × and ÷

(C) + and ÷ (D) × and –

22. Which set of symbols can replace?

25 * 2 * 6 = 4 * 11 * 0

(A) ×, –, ×, + (B) +, –, ×, +

(C) ×, +, ×, – (D) ×, +, +, ×

23. Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?

(A) Brother (B) Nephew

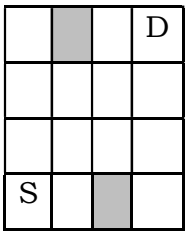
(C) Uncle (D) Son-in-law

24. Pointing to a woman, Abhijit said, "Her grand-daughter is the only daughter of my brother." How is the woman related to Abhijit?

(A) Sister (B) Grandmother

(C) Mother-in-law (D) Mother

25. From each box you can move only to the immediate right box or the immediate top box. You cannot move into or through a shaded box. How many ways are there to move from the box marked S to the box marked D?



(A) 11 (B) 10

(C) 12 (D) 14

26. The numerical ratio of displacement to distance for a moving object is

(A) Always less than 1 (B) Always equal to 1

(C) Always more than 1 (D) Equal or less than 1

27. Momentum of an object is 20 $kg\ ms^{-1}$. What will be its momentum if. Its mass is doubled but the velocity remains the same?

(A) 40 $kg\ ms^{-1}$ (B) 20 $kg\ ms^{-1}$

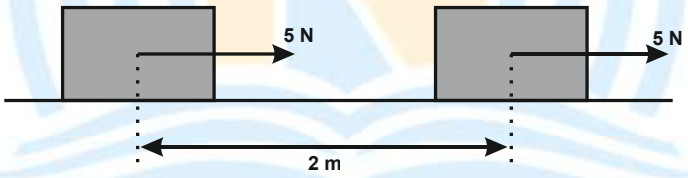
(C) 80 $kg\ ms^{-1}$ (D) 60 $kg\ ms^{-1}$

28. If G is universal gravitrational constant and g is acceleration due to gravity, then the unit of the quatity $\frac{G}{g}$ is

(A) $kg - m^2$ (B) kg / m

(C) kg / m^2 (D) m^2 / kg

29. A force of 5 N is acting on an object. The object is displaced through 2 m in the direction of the force. If the force acts on the object all through the displacement, then what is the work done on the object?



(A) 20 J (B) 10 J (C) 30 J (D) 25 J

30. A sound wave has a frequency of 2 kHz and wave length 35 cm. How long will it take to travel 1.5 km?

(A) 21.4 s (B) 4.28 s

(C) 1.07 s (D) 2.14 s

31. A rubber ball dropped from a certain height is an example of

(A) Non-uniform acceleration (B) Uniform retardation

(C) Uniform speed (D) Non-uniform speed

32. A constant force acts on an object of mass 5 kg for a duration of 2 s. It increases the object's velocity from 3 ms^{-1} to 7 ms^{-1}. Find the magnitude of the applied force

(A) 20 N (B) 10 N

(C) 30 N (D) 40 N

33. The mass of the Earth is 6×10^{24} kg and that of the Moon is 7.4×10^{22} kg. If the distance between the Earth and the Moon is 3.84×10^{5} km, calculate the force exerted by the Earth on the Moon. G = 6.7×10^{-11} $Nm^2\ kg^{-2}$.

(A) 7.01×10^{22} N (B) 5.01×10^{18} N

(C) 2.01×10^{20} N (D) 9.01×10^{19} N

34. A porter lifts a luggage of 15 kg from the ground and puts it on his head 1.5 m above the ground. Calculate the work done by him on the luggage (Take g = 10 m/s^2).

(A) 225 J (B) 250 J

(C) 450 J (D) 500 J

35. When sound waves travel from one medium to the other, the physical quantity that does not alter is

(A) Amplitude (B) Velocity

(C) Frequency (D) Intensity

CHEMISTRY

36. Which of the following is incorrect for solid state?

(A) They have fixed shape

(B) They cannot be compressed

(C) Solid particle moves at very fast speed and have high kinetic energy

(D) The force of attraction between solid particles is maximum.

37. Rusting of iron is

(A) Corrosion and physical change

(B) Corrosion and chemical change

(C) Dissolution and physical change

(D) Dissolution and Chemical change.

38. What is the chemical symbol of sodium element?

(A) S (B) Sd (C) Na (D) NA

39. Which subatomic particle is present in the nucleus of atom?

(A) Neutrons
(B) protons
(C) Neutrons and protons
(D) protons and electrons

40. Dry ice is

(A) Solid H_2O
(B) Solid CO_2
(C) Gaseous H_2O
(D) Gaseous CO_2

41. Colloidal solutions are

(A) Heterogeneous and show Tyndall effect
(B) Homogeneous and show Tyndall effect
(C) heterogenous and does not show Tyndall effect
(D) Homogeneous and does not show Tyndall effect.

42. The molecular weight of CH_4 is _____ times the molecular weight of SO_2?

(A) 2
(B) 4
(C) 1/2
(D) 1/4

43. Match the following columns.

Column I	**Column II**
Element	Electronic configuration
(i) C	(p) 2, 8, 1
(ii) N	(q) 2, 4
(iii) Na	(r) 2, 5
(iv) Mg	(s) 2, 8, 2

(A) (i)–p; (ii)–r; (iii)–q; (iv)–s
(B) (i)–r; (ii)–q; (iii)–p; (iv)–s
(C) (i)–q; (ii)–r; (iii)–p; (iv)–s
(D) (i)–s; (ii)–p; (iii)–q; (iv)–r

44. On converting 25°C and 78°C to Kelvin scale, the correct sequence of temperature will be?

(A) 273 K and 326 K
(B) 300 K and 353 K
(C) 298 K and 351 K
(D) 298 K and 400 K

45. Discovery of electron was done by

(A) J.J. Thomson
(B) Rutherford
(C) Chadwick
(D) Neil Bohr

46. Tonoplast is the membrane surrounding the: -

(A) Cytoplasm (B) Nucleus

(C) Mitochondria (D) Vacuole

47. Junction of two neurons is called:

(A) Synapse (B) Synapsis

(C) Junction (D) Synapticula

48. The high yielding dwarf variety of wheat developed by Dr. M.S. Swaminathan was

(A) Hira – moti (B) C 306

(C) Sharbati sonora (D) Arjun

49. Which of the following statements is not true –

(A) Both mitochondria and chloroplasts provide energy to cells in the same way

(B) Both mitochondria and chloroplasts have more than one membrane

(C) Only chloroplasts contain the pigment chlorophyll

(D) Both animal and plant cells contain mitochondria

50. Complete the following paragraph by selecting correct words from the alternatives given below it - Nervous tissue consists of ……This consists of ……. which contains the …….. and a long structure called the ……..

(A) Neurons, axon, cell body, nucleus

(B) Cell body, neurons, nucleus, neurons

(C) Neurons, cell body, nucleus, axon

(D) Axon, cell body, neurons, nucleus

51. Transplantation is mainly concerned with:

(A) Wheat (B) Rice

(C) Mango (D) Cotton

52. Select the incorrect statement:-

(A) In animal cells smaller vacuoles are present

(B) Plastids present in plant cells

(C) Chloroplasts are green coloured mitochondria

(D) In chloroplast photosynthetic units are Quantasomes

53. Tendon is made up of –

(A) Yellow fibrous tissue (B) White fibrous tissue

(C) Adipose tissue (D) Areolar tissue

54. Aim of plant breeding is not to produce –

(A) Disease free varieties (B) High yielding varieties

(C) Early maturing varieties (D) Pest Irresistible varieties

55. Robert Hooke observed cell in the _____, which were actually _____ cells:-

(A) Cork, living (B) Cork, dead

(C) Onion peel, living (D) Onion peel, dead

MATHEMATICS

56. The Product of $\sqrt[3]{2}\cdot\sqrt[4]{2}\cdot\sqrt[12]{32}$ is equal to.

(A) 2 (B) $\sqrt{2}$

(C) $\sqrt[12]{2}$ (D) $\sqrt[12]{32}$

57. If $x^2+kx+6=(x+2)(x+3)$ for all x , then value of k is

(A) -5 (B) 1

(C) -1 (D) 5

58. The area of ΔABC with A (0,0), B(-4,0), and C(0,-4) in (Sq. units) is

(A) 4 (B) 16

(C) 2 (D) 8

59. If (1, –1) is a solution of the equation $x-5y+k=0$, find the value of k.

(A) -5 (B) -6

(C) 5 (D) 6

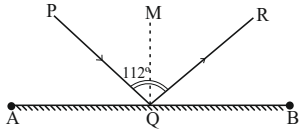
60. Two angles measure $(50-x)^\circ$ and $(120+2x)^\circ$. If each one is Supplement of the other, Find the value of $(x+10)^\circ$

(A) 10° (B) 20°

(C) 30° (D) 40°

61. In the given figure, AB is a mirror PQ is the incident ray and QR, the reflected ray

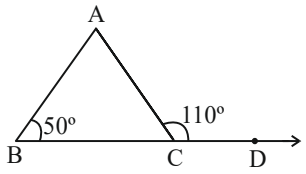
If $\angle PQR = 112^o$, find $\angle PQA$



(A) 30º (B) 45º

(C) 34º (D) 40°

62. In a ΔABC, Side BC is Produced to D. If $\angle ABC = 50^o$ and $\angle ACD = 110^o$ then $\angle A = ?$



(A) 160º (B) 80º

(C) 60º (D) 30º

63. Rationalise the denominator of $\frac{1}{\left(3+\sqrt{2}\right)}$

(A) $3-\sqrt{2}$ (B) $\frac{3-\sqrt{2}}{5}$

(C) $\frac{3-\sqrt{2}}{7}$ (D) $\frac{3+\sqrt{2}}{7}$

64. If $\left(x-k\right)$ is a factor of $\left(x^3-kx^2+2x+k-1\right)$, find the value of k .

(A) -3 (B) $\frac{-1}{3}$

(C) 3 (D) $\frac{1}{3}$

65. Point $\left(0,-\sqrt{2}\right)$ lies

(A) In the II Quadrant (B) In the IV Quadrant

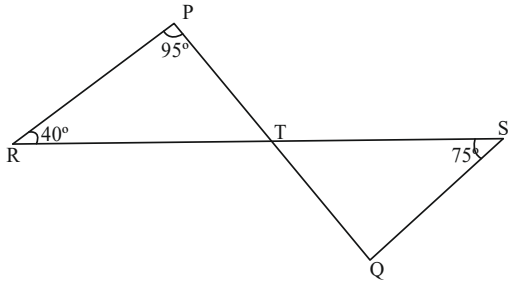
(C) On the x-axis (D) On the y-axis.

66. The equation of the x-axis is

(A) $x=0$ (B) $y=0$

(C) $x=y$ (D) $x+y=0$

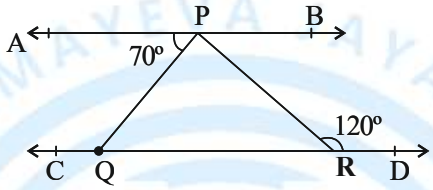
67. In the adjoining figure, If PQ and RS intersect at T and $\angle PRT = 40^\circ$, $\angle RPT = 95^\circ$ and $\angle TSQ = 75^\circ$, find $\angle SQT$.



(A) 60° (B) 45°

(C) 75° (D) 35°

68. In the given figure $AB \parallel CD$. If $\angle APQ = 70^\circ$ and $\angle PRD = 120^\circ$ then $\angle QPR = ?$



(A) 50° (B) 60° (C) 40° (D) 35°

69. In $\Delta ABC, AB = AC$ and $\angle B = 50^\circ$. Then $\angle A = ?$

(A) 40° (B) 50° (C) 130° (D) 80°

70. If a and b are rational numbers and $\frac{4+3\sqrt{5}}{4-3\sqrt{5}} = a + b\sqrt{5}$, Find the value of $(a+b)$

(A) $-\frac{85}{29}$ (B) $\frac{61}{29}$ (C) $\frac{85}{29}$ (D) $-\frac{61}{29}$

71. If both $(x-2)$ and $\left(x-\frac{1}{2}\right)$ are factors of px^2+5x+r, then

(A) p = 2r (B) 2p = r (C) p = r (D) p = – r

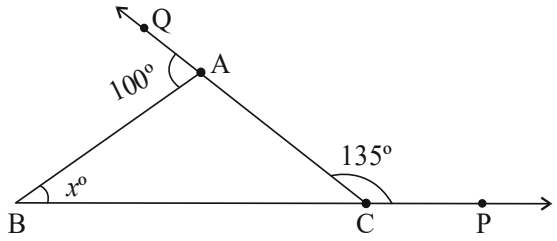
72. If $x = 7-4\sqrt{3}$ then the value of $x^3 + \frac{1}{x^3} =$

(A) 14 × 196 (B) 14 × 193 (C) 11 × 196 (D) 11 × 193

73. The graph of the linear equation $2x+5y=10$ meets the x-axis at the point.

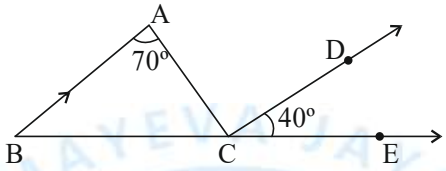
(A) (0, 2) (B) (2, 0) (C) (5, 0) (D) (0, 5)

74. Calculate the value of x in the adjoining figure



(A) 35° (B) 40° (C) 60° (D) 55°

75. In the adjoining figure, $AB \parallel DC$. Then find the measure of $\angle ABC$



(A) 30° (B) 40° (C) 50° (D) 60°

*****

ANSWER KEY										
Que.	1	2	3	4	5	6	7	8	9	10
Ans.	C	C	D	C	B	D	A	C	D	A
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	A	D	A	C	C	B	B	C	B	A
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	D	A	A	D	C	D	A	D	B	D
Que.	31	32	33	34	35	36	37	38	39	40
Ans.	D	B	C	A	C	C	B	C	C	B
Que.	41	42	43	44	45	46	47	48	49	50
Ans.	A	D	C	C	A	D	A	C	A	C
Que.	51	52	53	54	55	56	57	58	59	60
Ans.	B	C	B	D	B	A	D	D	B	B
Que.	61	62	63	64	65	66	67	68	69	70
Ans.	C	C	C	D	D	B	A	A	D	A
Que.	71	72	73	74	75					
Ans.	C	B	C	D	B					

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Campus-3: 392, Shri Gopal Nagar, Gopalpura Bypass
Campus-4: Plot A-14 & 36, Near Khatipura Tiraha, Hanuman Nagar
Campus-5: Plot No.4, Shri Gopal Nagar, Near Zudio, Gopalpura Bypass
Campus-6: 3-A, D. L. Tower, Vidyashram Institutional Area, Behind RAS Club, JLN Marg

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