iQuest
An Initiative by IITians

ISAT
iQuest Scholarship Cum Admission Test

FOR CLASS 8th
MOVING TO CLASS 9th (EXPLORE)
SAMPLE TEST

Time: 1.5 Hr		**Max Marks : 280**

The Test Consists of Two Sections : (TOTAL 70 QUESTIONS)		
Section	**Type**	**No. of Questions**
Section A :	**Reasoning**	**15 Q.**
Section B :	**Scholastic Aptitude**	**55 Q.**

INSTRUCTIONS TO CANDIDATE

➢ Each subject in this paper consists of multiple choice questions with only one correct answer. *+4 marks* will be awarded for correct answer and *–1 mark* for wrong answer.

➢ Please read the instructions given for each question carefully and fill the correct answer against the question numbers on the answer sheet in the respective subject.

➢ Use blue or black ball point pen to darken the appropriate circle & mark should completely fill the circle.

➢ The Question paper contains blank spaces for your rough work. No additional sheet will be provided for rough work.

➢ Blank papers, Clipboards, Log Tables, Slide rule, Calculators, Cellular phones, Pagers and Electronic gadgets in any form are not allowed.

➢ Write your Name, Student ID in the block at the top of the Answer Sheet. Also write your Name & Student ID in the space provided on this cover page of question paper.

➢ **This is a Sample Test Paper. The actual Paper Pattern may vary in terms of duration and sections. However the syllabus will be same.**

Name:_____Student ID_____

Directions : (Q1-2)In the following questions, four out of the five alternatives are same in a certain way and so form a group. Find the odd one that does not belong to the group .

1. (A) HJM   (B) OQT
    (C) BDG   (D) VXZ

2. (A) 26   (B) 124
    (C) 728   (D) 64

3. In a code language, if BEAT is coded as 5642 and SWEET is coded as 66912, how would you code TEASE?

    (A) 96162   (B) 56264
    (C) 96625   (D) 55296

Directions : (Q4-5)According to a certain code language, words in column I are written in capital letters and in column II their codes are given. The codes in column II are jumbled up. Decode the language and choose the correct code for the word given in each of the questions that follow.

Column - 1	Column - II
(1) CHAIN	(a) acmvq
(2) FRAIL	(b) pnqal
(3) TEAM	(c) wjqd
(4) DESTINY	(d) xwtjazc
(5) TOIL	(e) ajgl
(6) VARY	(f) qbzn
(7) NAUGHTY	(g) iqcfvzj

4. DAILY
    (A) aqzla   (B) alzqi
    (C) lzqat   (D) aqtzc

5. TEAR
    (A) nqjw   (B) qwmc
    (C) jwqc   (D) fjew

Directions : (Q6-9)Study the following information carefully and then answer the questions that follow.

A blacksmith has five iron articles A, B, C, D and E each having a different weight.

(i) A weighs twice as much as B.

(ii) B weighs four and half times as much as C.

(iii) C weighs half as much as D.

(iv) D weighs half as much as E.

(v) E weighs less than A but more than C.

6. E is lighter in weight than which of the other two articles?
    (A) A, B   (B) D, C
    (C) A, C   (D) D, B

7. E is heavier than which of the following two articles?
    (A) D, B   (B) D, C
    (C) A, C   (D) A, B

8. Which of the following is the heaviest in weight?
    (A) A   (B) B
    (C) C   (D) D

9. Which of the following represents the descending order of weights of the articles?
    (A) A, B, E, D, C   (B) B, D, E, A, C
    (C) A, B, C, D, E   (D) C, D, E, B, A

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Space for Rough work

10. After walking 6 km I turned right and covered a distance of 2 km, then turned left and covered a distance of 5 km. In the end, I was moving towards the north. In which direction did I start the journey?

(A) North   (B) South

(C) East   (D) West

11. In a class, the names of boys are arranged alphabetically. Gaurav and Saurabh have 14 boys between them. If Gaurav is 37th from the bottom, Saurabh would be at what position from the top?

(A) 25th   (B) 28th

(C) 27th   (D) Can't be determined

12. How many 6s in the series are preceded by 5 but not followed by 9?

5686765656859656968655568659569568
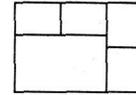
(A) 4   (B) 6

(C) 7   (D) 5

Directions : (Q13)Following questions are based on the information given below:

1. 'P×Q' means 'P is the father of Q'

2. 'P–Q' means 'P is the sister of Q'

3. 'P+Q' means 'P is the mother of Q'

4. 'P÷Q' means 'P is the brother of Q'

13. Which of the following represents 'J is the son of F'?

(A) J ÷ R – T × F   (B) J + R – T × F
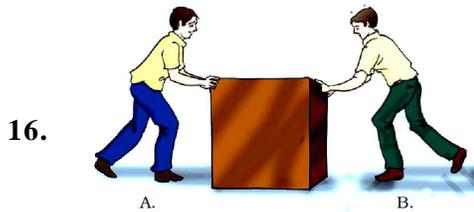
(C) J ÷ M – N × F   (D) None of these

Directions : (Q14)The question below consist of a question followed by two statements labelled as I and II. You have to decide if these statements are sufficient to conclusively answer the question. Give your answer as:

(A) if statement I alone is sufficient to answer the question;

(B) if statement II alone is sufficient to answer the question;

(C) if statement I and II together are needed to answer the question;

(D) if statement I or II alone are sufficient to answer the question;

14. Who is older – Ritu or Situ?

I. Situ was born in the year 1980 and is 5 years younger than Ritu's brother.

II. Ritu is twice as older as her brother.

15. How many rectangles are there in the figure below?
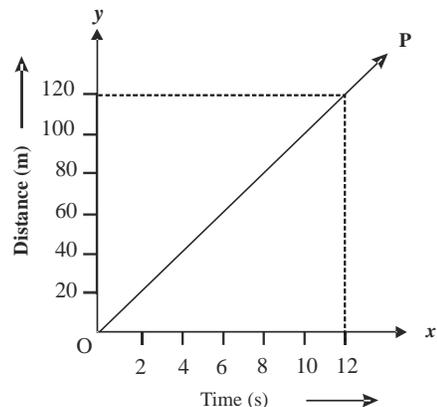

(A) 6   (B) 7

(C) 8   (D) 9

16.

In fig. two boys A and B are shown applying force on a block. if the block moves towards the right, which one of the following statements is correct?

(A) Magnitude of force applied by A is greater than that of B.

(B) Magnitude of force applied by A is smaller than that of B.

(C) Net force on the block is towards A.

(D) Magnitude of force applied by A is equal to that of B.

17. Whenever the surfaces in contact tend to move or move with respect to each other, the force of friction comes into play

(A) only if the objects are solid.

(B) only if one of the two objects is liquid.

(C) only if one of the two objects is gaseous.

(D) irrespective of whether the objects are solid, liquid or gaseous.

18. A list of mediums is given below.

(i) wood   (iii) air

(ii) water   (iv) vacuum

In which of these mediums can sound travel?

(A) i & ii only   (B) i, ii & iii only

(C) iii & iv only   (D) ii, iii & iv only

19. An electric current can produce

(A) heating effect only.

(B) chemical effect only.

(C) magnetic effect only.

(D) chemical, heating, and magnetic effects.

20. An electroscope is a device which is used to find if an object is

(A) charged   (B) magnetic

(C) free of cracks   (D) hot

21. Part of the eye which controls the light entering is called

(A) iris   (B) cornea

(C) lens   (D) retina

22. Morning star is the name given to

(A) pole star   (B) star sirius

(C) planet jupiter   (D) planet venus

23. A quantity has a value of -6.0 m/s. It may be the

(A) speed of a particle

(B) velocity of a particle

(C) acceleration of a particle

(D) position of a particle

24. The distance-time graph of a car is shown. What is the speed of the car?
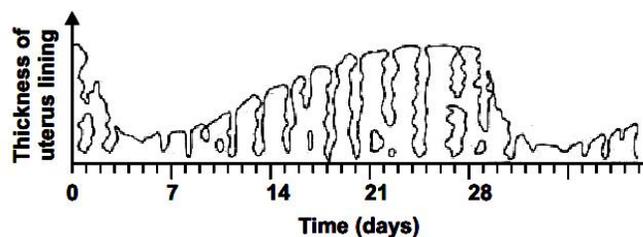

(A) 2.5 m/s   (B) 5.0 m/s

(C) 10.0 m/s   (D) 20.0 m/s

25. A gun recoils after firing to conserve
    (A) velocity   (B) momentum
    (C) force   (D) speed

26. While dusting a carpet we suddenly jerk or beat it with a stick because
    (A) inertia of rest keeps the dust in its position and the dirt is removed by moment of the carpet away
    (B) inertia of motion removes the dirt
    (C) no inertia is involved it is due to practical experience
    (D) none of these

27. Which of the following is carried by the waves from one place to another -
    (A) mass   (B) velocity
    (C) wavelength   (D) energy

28. The velocity of sound is largest in -
    (A) water   (B) air
    (C) metal   (D) vacuum

29. Two plane mirrors are arranged such that their reflecting surfaces are parallel and face each other. When an object is placed between them the number of images formed are _____
    (A) 2   (B) infinite
    (C) 3   (D) 4

30. The twinkling of stars at night is caused by
    (A) Reflection of light
    (B) Refraction of light
    (C) Dispersion of light
    (D) Polarization of light

31. Pick the synthetic fibre out of the following?
    (A) Cotton   (B) Nylon
    (C) Jute   (D) Wool

32. Which of the following is not a metal?
    (A) copper   (B) sulphur
    (C) aluminium   (D) iron

33. Various materials which are obtained from nature Are called natural resources. Which of the following is not a natural resource?
    (A) minerals   (B) water
    (C) soil   (D) plastic

34. A substance which reacts with oxygen giving heat is called a combustible substance. Which, one of the following is a combustible substance?
    (A) iron nail   (B) glass
    (C) stone piece   (D) wood

35. Air is a mixture of various gases. One of the gases is 21% part of the air and is essential for the survival of human beings. This gas is
    (A) nitrogen   (B) oxygen
    (C) ozone   (D) argon

36. Which out of the following does not make sense.
    (A) Solids have fixed shape and fixed volume.
    (B) Liquids can be compressed easily, but not gases.
    (C) The particles of solids have negligible kinetic energy.
    (D) Property of diffusion is maximum in the gaseous state.

37. On changing which of the following, the states of matter can be changed ?
    (A) Temperature   (B) Pressure
    (C) (A) & (B) both   (D) None of these

38. Non-reacting gases have a tendency to mix with each other. This phenomenon is known as –
    (A) chemical reaction (B) evaporation
    (C) diffusion   (D) explosion

39. The electronic configuration of an atom is *2, 8, 2*. The number of valence electrons in the atom is
    (A) 10   (B) 12
    (C) 8   (D) 2

40. The nucleus of an atom contains -
    (A) neutrons and electrons
    (B) protons and electrons
    (C) protons and neutrons
    (D) protons, neutrons and electrons.

41. Wood charcoal is used in gas masks because it
    (A) has good smell
    (B) dissolves poisonous gases
    (C) adsorbs poisonous gases
    (D) reacts with poisonous gases

_____

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Space for Rough work

42. Hydrocarbons having double or triple bonds are known as
(A) saturated hydro carbons
(B) unsaturated hydrocarbons
(C) alkenes
(D) chalcogens

43. Crystalline form of carbon having 60 carbons atoms joined together
(A) polymer
(B) buckminster Fullerene
(C) coal   (D) diamond

44. The ratio of the number of hydrogen atoms and those of oxygen in water is -
(A) 2 : 1   (B) 1 : 2
(C) 2 : 2   (D) None of these

45. Which of the following is not the attribute of a good fuel?
(A) Low calorific value
(B) Moderate rate of combustion
(C) Fairly cheap and easily available
(D) Safe to handle, store, and transport

46. Which one of the following condition is not essential to grow maize?
(A) High temperature   (B) Humidity
(C) Low temperature   (D) Rainfall

47. Which of the following reproduces only inside a host cell?
(A) Bacteria   (B) Virus
(C) Amoeba   (D) Fungus.

48. Wild buffalo is an endangered species because
(A) its population is diminishing
(B) it has become extinct
(C) it is found exclusively in a particular area
(D) its poaching is strictly prohibited

49. Choose the correct statement with respect to unicellular organisms :
(A) in unicellular organisms, tissues work in co-ordination to perform different functions.
(B) unicellular organisms do not require food.
(C) unicellular organisms respire and reproduce.
(D) all unicellular organisms move by cilia.

50. Sets of reproductive terms are given below. Choose the set that has an incorrect combination.
(A) sperm, testis, sperm duct, penis
(B) menstruation, egg, oviduct, uterus
(C) sperm, oviduct, egg, uterus
(D) ovulation, egg, oviduct, uterus

51. The belief that the mother is completely responsible for the sex of the child is wrong because the child
(A) gets sex chromosome only from the mother.
(B) develops in the body of the mother.
(C) gets one sex chromosome from the mother and the other from the father.
(D) gets sex chromosome only from the father.

52. Brooders are meant for ____
(A) Protecting young ones from enemies
(B) Yielding meat
(C) Supplying warmth to incubating eggs
(D) Yielding high proteinaceous eggs

53. The shape of the bacteria shown in the figure is

(A) Bacilli   (B) Cocci
(C) Vibrio   (D) Spirillum

54. Cutting down forests and using the land for other purposes is known as deforestation. It has adverse effects on the environment. Which of the following are correct regarding these effects ?
(i) Decrease in soil erosion
(ii) Increase in temperature
(iii) Ground water level gets lowered
(iv) Droughts and floods
(v) Increase in water holding capacity of the soil
(A) (i), (ii), (iii) & (iv)   (B) (ii), (iv) & (v)
(C) (ii), (iii) & (iv)   (D) (i), (ii), (iv) & (v)

Space for Rough work

55. **Statement I :** Prokaryotes have a cell wall, eukaryotes do not

Statement II : Prokaryotes have a true nucleus, eukaryotes have a primitive nucleus.

(A) Both statement I and statement II are true and statement II is the correct explanation of statement I

(B) Both statement I and statement II are true but statement II is not the correct explanation of statment I

(C) Statement I is true but statement II is false

(D) Both statement I and statement II are false

56. A cell is considered to be a fundamental unit of life because ___.

(A) It has various organelles

(B) An organism is made up of cells

(C) It is the smallest structure that exhibits growth, metabolism, self regulation and self duplication

(D) No smaller unit has yet been tested by scientists so far

57. Read the following paragraph and choose the correct sequence of words to be filled in the gaps of the paragraph.

The changes which occur at adolescence are controlled by ___. These are secretions from ___ glands. The ___ begins to release from the testes at the onset of puberty. Once puberty is reached in girls, ovaries begin to produce ___. The production of these hormones is under the control of another hormone secreted from ___ gland.

(A) Chemical substances, thyroid, insulin, adrenaline, endocrine

(B) Hormones, endocrine, testosterone, estrogen, thyroid

(C) Chemical substances, pituitary, sperms, ovules, thyroid

(D) Hormones, endocrine, testosterone, estrogen, pituitary

58. Refer the given graph of menstrual cycle. What happens after day 28 ?

(A) Ovulation (B) Implantation

(C) Menopause (D) Menstruation

59. Fertilization results in the formation of zygote. The zygote divides repeatedly to give rise to a solid ball of cells which is called

(A) Foetus (B) Ovum

(C) Morula (D) Blastula

60. Which of the following pairs of hormones control the onset of puberty in boys and girls respectively?

(A) Thyroxine and insulin

(B) Estrogen and progesterone

(C) Testosterone and estrogen

(D) Estrogen and testosterone

61. With Rs. 1,000, one can buy 4 pairs of trousers or 8 shirts. What is the amount required to buy 3 pairs of trousers and 3 shirts ?

(A) Rs. 1125 (B) Rs. 1015

(C) Rs. 1115 (D) Rs. 1105

62. If $a : b = 2 : 3$ and $x : y = 3 : 4$, the value of

$$\frac{4ay - 3bx}{5ax - 2by} \text{ is}$$

(A) $\dfrac{5}{3}$ (B) $\dfrac{5}{6}$

(C) $\dfrac{4}{5}$ (D) $\dfrac{5}{4}$

63. The value of $(a^{1/8} + a^{-1/8}) (a^{1/8} - a^{-1/8}) (a^{1/4} + a^{-1/4})$ $(a^{1/2} + a^{-1/2})$ is :

(A) $(a + a^{-1})$ (B) $(a - a^{-1})$

(C) $(a^2 + a^{-2})$ (D) $(a^2 - a^{-2})$

64. A general arranges his soldiers in rows to form a perfect square. He finds that in doing so, 60 soldiers are left out. If the total number of soldiers be 8160. Then the number of soldiers in each row is :

(A) 90   (B) 91

(C) 92   (D) 80

65. The unit digit in the product $(327)^{173}$ is :

(A) 9   (B) 7

(C) 1   (D) 3

66. A chord of length 14 cm is at a distance of 6 cm from the centre of a circle. The length of another chord at a distance of 2 cm from the centre of the circle is

(A) 12 cm   (B) 14 cm

(C) 16 cm   (D) 18 cm

67. A sum is split into two equal parts. One of the parts is lent at simple interest at 20% p.a. for 6 years. The other parts is lent at 40% p.a. simple interest for 2 years. The difference in the interests is Rs 72. Find the total sum (in Rs).

(A) 180   (B) 360

(C) 240   (D) 270

68. A bicycle wheel makes 5000 revolutions in moving 11 km. The diameter of the wheel is

(A) 50 cm   (B) 60 cm

(C) 70 cm   (D) 80 cm

69. Water flows out through a circular pipe whose internal diameter is 2 cm, at the rate of 6 metres per second into a cylinderical tank, the radius of whose base is 60 cm. By how much will level of water rise in 30 minutes ?

(A) 2 m   (B) 3 m

(C) 4 m   (D) 5 m

70. Two numbers are selected at once from the set of integers 1 to 20. Find the probability that the product of the numbers will be 24?

(A) $\dfrac{3}{190}$ (B) $\dfrac{3}{380}$

(C) $\dfrac{4}{95}$ (D) $\dfrac{3}{95}$

ANSWER KEY

SECTION - A
REASONING

1.	(D)	2.	(D)	3.	(C)	4.	(C)	5.	(A)	6.	(A)
7.	(B)	8.	(A)	9.	(A)	10.	(A)	11.	(D)	12.	(D)
13.	(D)	14.	(C)	15.	(D)								

SECTION - B
SCHOLASTIC APTITUDE

16.	(A)	17.	(D)	18.	(B)	19.	(D)	20.	(A)	21.	(A)
22.	(D)	23.	(B)	24.	(C)	25.	(B)	26.	(A)	27.	(D)
28.	(C)	29.	(B)	30.	(B)	31.	(B)	32.	(B)	33.	(D)
34.	(D)	35.	(B)	36.	(B)	37.	(C)	38.	(C)	39.	(D)
40.	(C)	41.	(C)	42.	(B)	43.	(B)	44.	(A)	45.	(A)
46.	(C)	47.	(B)	48.	(A)	49.	(C)	50.	(C)	51.	(C)
52.	(A)	53.	(C)	54.	(C)	55.	(D)	56.	(C)	57.	(D)
58.	(D)	59.	(C)	60.	(C)	61.	(A)	62.	(B)	63.	(B)
64.	(A)	65.	(B)	66.	(D)	67.	(B)	68.	(C)	69.	(B)
70.	(A)										