

KIST Entrance Sample Test

Science

[Set A]

Time: 1 hr 30 mins

Full Marks: 100

Welcome to the KIST Entrance Sample Test!

This Test assesses student's competency to undertake +2 Programme in **Science**. It contains 100 multiple choice questions – English (20), Science (50), Mathematics (20) and General Knowledge (10).

Please **FOLLOW** the **DIRECTIONS** below:

1. Write your **Name and Exam Entry Card Number** clearly in the space given in the **Answer Sheet**.
2. During the Test, **do not leave your seat** unless it is necessary for which you would have to take the permission.
3. Please maintain **complete silence** in the examination hall.
4. Do **not** use **calculators**.
5. Questions are self-explanatory. Further **clarification** will **not** be entertained.
6. Do **not write** anything on the **Test Paper**. Use scrap paper provided for **rough work**.
7. **Read the questions carefully**. **Mark your choice** on the answer sheet as shown below in the example:-

Example: All of the following are examples of reflex EXCEPT

A) Sneezing B) Blinking C) Thinking D) Knee Jerking

The answer is 'Thinking'; so, on your answer sheet use a cross mark for the correct answer as shown below:

A	B	C	D
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

8. In multiple choice questions, choose the best option marking it carefully. More than one answer to a question or cancellation by over-writing or smudging of answer choices shall entail loss of marks for that question.
9. At the end of the Test, do not leave your seat or the hall until your **test papers** (Question Papers and Answer Sheet) are collected by the Invigilator.



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English

1. The Director as well as three members of the company present at the conference.
a) be b) was c) were d) had
2. Michael has been Karate for years.
a) playing b) going c) doing d) X
3. Let's go to school,?
a) will you? b) shall we? c) won't you d) will we?
4. The direct speech of: The policeman enquired where we were going. is:
a) The Policeman enquired where are you going.
b) The Policeman said, "Where are you going?"
c) The Policeman asked, "Where you are going?"
d) Policemen said, "Where are you going?"
5. He is a bad-tempered person that no one can work with him for long.
a) such b) so c) such as d) that
6. Select the correct synonym for the word: VETERAN
a) AMATEUR b) UNSKILLED c) EXPERIENCED d) ALL OF THREE
7. Mahima will have completed her M.B.A. 2022.
a) by b) for c) from d) in
8. Have you any idea who invented telescope?
a) the b) an c) a d) no article
9. a bike, a car has four wheels.
a) Like b) Alike c) Likes d) Unlike
10. If a thief in my room at night, I'd throw something at him.
a) will come b) comes c) came d) is coming
11. Indirect speech of John said, "He won lottery yesterday." is:
a) John said that he had won lottery the day before.
b) John said that he won lottery the day before.
c) John said that he was winning lottery the day before.
d) John said that he won lottery yesterday.
12. The art of correct spelling is
a) Calligraphy b) Phonetics c) Orthography d) Orthodontist
13. FROGS : CROAK :: ?
a) HARE : LEVERET b) FILLY : COLT
c) LIQUOR : INTOXICATION d) SERPENTS : HISS
14. The correct antonym of PARSIMONY is
a) GENEROUS b) SELFISH c) ECONOMICAL d) MEANNESS
15. Correct the following sentence for correct use of punctuation(s): What a fine painting
a) What a fine painting? b) What a fine painting!
c) What a fine painting. d) "What a fine painting"
16. He started KICKING OFF big time when the police tried to arrest him. What does the underlined phrasal in the sentence mean?
a) To fight b) To get afraid c) To co-operating d) To argue

17. It's 3 O'clock now and the meeting (close) at 4:30 pm.
a) close b) closed c) will close d) closes

Read the given passage and answer the questions that follow:

Development is not about building big statues and view towers. A place becomes developed only when it facilitates people, and makes their lives easier. To make them deprived of their livelihood and environment is contrary to the aims of development. The concerned authorities need to set their priorities right and decide on the important areas where it can spend money first. The statues and picnic spots can come later. The construction of skyscraping statues of no practical utility is not a sign that the country is marching towards development and progress.

18. What is development according to the passage?
a) Facilitating people.
b) Making statues of important person.
c) Depriving people from good environment
d) All three points
19. In the passage the word **Skyscraping** means
a) Statue b) Big c) High-rise d) Beautiful
20. Find a word in the passage that means 'UNDERPRIVILEGED'.
a) FACILITATES b) CONTRARY c) DEPRIVED d) PRIORITIES

Science

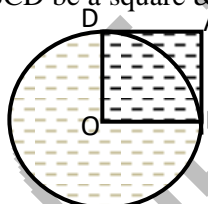
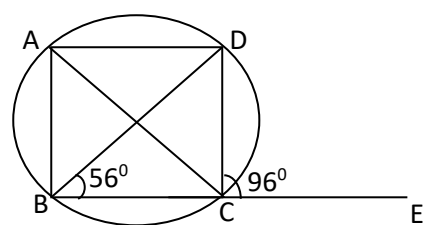
21. Ratio of effort distance to the load distance is known as
a) Mechanical advantage b) Velocity ratio
c) Efficiency d) load
22. Inertia of rest depends on
a) Force applied on the body b) Mass of the body
c) Velocity of the body d) Direction of the motion
23. A body exerts a force of magnitude 5 N and gets 5 N as reaction. Then, the total force the body experiences
a) 10 N b) 5 N c) 0 N d) 25 N
24. If velocity is doubled then Kinetic energy becomes
a) 2 times b) equal c) 4 times d) 8 times
25. To have free fall, the acceleration of the body is
a) Less than acceleration due to gravity b) More than acceleration due to gravity
c) Equal to acceleration due to gravity d) None of the above
26. If a body is completely immersed in a liquid. Its should be equal to that of displaced liquid.
a) mass b) density c) volume d) weight
27. A body 'A' has 2000 J energy at 20°C and another body 'B' has energy 200 J at 200°C, then when they are kept in thermal contact, heat flows from.
a) A to B b) B to A c) None of them d) Both of them
28. The fastest mode of heat transfer is
a) Conduction b) Convection c) Radiation d) All of the above
29. The critical angle for water is
a) 24° b) 49° c) 42° d) 35°

47. How many numbers of moles are present in 108 gram aluminum?
 a) 2 moles b) 3 moles c) 4 moles d) 5 moles
48. At higher altitudes the boiling point of liquids
 a) increases b) decreases c) remains same d) increase then decrease
49. In the equation: $\text{Na}_2\text{CO}_3 + \text{X HCl} \rightarrow 2 \text{NaCl} + \text{CO}_2 + \text{H}_2\text{O}$, the value of 'X' is ...
 a) 1 b) 2 c) 3 d) 4
50. Which of the following behaves as strong acid?
 a) HCl b) HBr c) HF d) HI
51. Which is not the mode of vegetative reproduction?
 a) Budding b) Spore formation
 c) Cutting d) Gemma formation
52. Pollination by birds is
 a) Entomophily b) Ornithophily c) Anemophily d) None of them
53. What is the name of the female reproductive part of flower?
 a) Androecium b) Gynoecium c) Calyx d) Corolla
54. Which plant have in their seeds only one cotyledon?
 a) Rice b) Potato c) Pea d) Mustard
55. Name the process by which oxygen is released to the atmosphere?
 a) Photosynthesis b) Respiration c) Transpiration d) a & b
56. A self-cross between F_1 hybrid give phenotypic ratio
 a) 1 : 2 : 1 b) 3 : 1 c) 1 : 1 : 1 : 1 d) None of them
57. Who developed 5-kingdom classification?
 a) Carolus Linnaeus b) R.H. Whittaker c) A. Engler d) T.D. Hooker
58. Climate of the world is threatened by
 a) Increasing concentration of atmospheric O_2
 b) Decreasing amount of atmospheric O_2
 c) Increasing amount of atmospheric CO_2
 d) Decreasing amount of atmospheric CO_2
59. Bacteriophage is
 a) Bacteria b) Virus c) Fungi d) Algae
60. Down's syndrome is due to
 a) Extra sex chromosome b) Extra 21st chromosome
 c) Extra 'Y' chromosome d) Deficient of sex character
61. 'Origin of species' was written by
 a) Oparin b) Weismann c) Darwin d) Hugo De Vries
62. Special structures for absorption in small intestine are called as
 a) Alvoeli b) Villi c) Epiglottis d) Muscles
63. Common bath sponge is
 a) Euspongia b) Hyalonema c) Euplectella d) Spongilla

64. Flame cells are main excretory structures of
 a) Coelenterates b) Platyhelminthes c) Annelida d) Echinodermata
65. **Sea mouse** belong to phylum.
 a) Chordata b) Mollusca c) Annelida d) Echinodermata
66. Open blood circulation is found in
 a) Earthworm b) Cockroach c) Humans d) Cows
67. Tendon is a structure which connects
 a) A nerve fibre with muscle b) A muscle with a bone
 c) A bone with another bone d) Skin with underlying parts
68. Which is a water borne disease?
 a) Small Pox b) Malaria c) Tuberculosis d) Cholera
69. Silver fish is
 a) a fish b) an insect c) Arthropoda d) Echinodermata
70. The Study of animal behavior is
 a) Sociology b) Ethology c) Phenology d) Psychology

Mathematics

71. If $n(A) = 40$, $n(B) = 30$, $n(U) = 60$, then maximum of $n(A \cup B)$ is
 a) 40 b) 30 c) 70 d) 60
72. If $f(x + 3) = 3x + 10$, then the value of $f(x)$ is
 a) $3x + 1$ b) $3x + 10$ c) $3x + 19$ d) $x + 3$
73. A man forgets the last digit of telephone number while dialing. Then he randomly chooses the number. What is the probability that the number dialed correctly?
 a) $\frac{1}{10}$ b) $\frac{1}{2}$ c) $\frac{1}{9}$ d) 0
74. The sum of cube of first n natural number is
 a) $\frac{n(n+1)}{2}$ b) $\left[\frac{n(n+1)}{2}\right]^2$ c) $\left[\frac{n(n+1)}{2}\right]^3$ d) $\frac{n(n+1)(2n+1)}{6}$
75. Ram can do a piece of work in 8 days and Shyam can do the same work in 6 days. Ram and Shyam work on it alternate days. If Ram started the work in the first day, In how many days the work will be finished?
 a) 8 b) 6 c) 7 d) 9
76. If $\begin{bmatrix} a & 5 \\ 4 & a \end{bmatrix} = \begin{bmatrix} a & 4 \\ 7 & 6 \end{bmatrix}$, then $a = ?$
 a) ± 2 b) ± 4 c) 2, 4 d) 4, -2
77. The mean of 150 items is 52. Later on, it was discovered that two items were misread as 92 and 8 instead of 192 and 88. Find out the correct mean.
 a) 35.2 b) 52.3 c) 53.2 d) 25.3
78. The equation of straight line which passes through the mid-point of the line segment joining (2, 4) and (2, -4) and perpendicular to the line $3x - 2y = 5$ is
 a) $2x - 3y = 5$ b) $2x + 3y = 4$ c) $2x + 4y = 3$ d) $2x - 3y = 4$
79. How many spherical balls of radius 1 cm can be made from a sphere of radius 8 cm?
 a) 512 b) 320 c) 412 d) 312

80. What is the center of the circle $4x^2 + 4y^2 - 8x + 24y + 32 = 0$?
 a) (4, -12) b) (-4, 12) c) (-1, 3) d) (1, -3)
81. Two cars start at the same time from two station 480 km apart in opposite direction. The speed of the first car is greater than that of the second by 6 km/hr. If they meet each other at 6 hours from the start. Find the speed of cars?
 a) 52 km/hr & 58 km/hr b) 32 km/hr & 26 km/hr
 c) 45 km/hr & 39 km/hr d) 43 km/hr & 37 km/hr
82. $\frac{\sin 39^\circ - \cos 69^\circ}{\cos 69^\circ + \sin 39^\circ} = ?$
 a) $-\sqrt{3}\tan 9^\circ$ b) $\sqrt{3}\cot 9^\circ$ c) $\sqrt{3}\tan 9^\circ$ d) $\frac{1}{\sqrt{3}}\tan 9^\circ$
83. H.C.F. of $x^4 - x^3 + x - 1$, $x^4 + x^2 + 1$ is
 a) $x^2 - x + 1$ b) $x^4 - x + 1$ c) $x^2 + x - 1$ d) $(x + 1)(x - 1)$
84. Find the value of K so that the equation $2x^2 + Kx - 15 = 0$ has one root = 3.
 a) K = 1 b) K = -1 c) K = -3 d) K = 0
85. In the figure, C be the center of the circle and ABCD be a square & BC = 4 cm. Then, area of the shaded region is
 a) $16 + 12\pi \text{ cm}^2$ b) $16 - 4\pi \text{ cm}^2$
 c) $16(\pi - 1) \text{ cm}^2$ d) $16(\pi + 1) \text{ cm}^2$
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86. If $\vec{a} = 3\vec{i} - m\vec{j}$ and $\vec{b} = 10\vec{i} + 6\vec{j}$ are perpendicular to each other, what is the value of m?
 a) -5 b) -6 c) 5 d) 2
87. $\tan^{-1}x + \tan^{-1}y = ?$
 a) $\tan^{-1}\left(\frac{x-y}{1+xy}\right)$ b) $\tan^{-1}\left(\frac{x+y}{1-xy}\right)$ c) $\tan^{-1}\left(\frac{1-xy}{x+y}\right)$ d) $\tan^{-1}\left(\frac{1+xy}{x-y}\right)$
88. In the given figure, ABCD is a cyclic quadrilateral. If $\angle DCE = 96^\circ$ and $\angle DBC = 56^\circ$. Value of $\angle BAC = ?$
 a) 56° b) 96°
 c) 40° d) 30°
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89. Sabita was 25 years when her son was born. But the product of their ages now is 186, find the present ages of mother and her son.
 a) 31, 6 years b) 23.25, 8 years c) 29, 6 years d) 46.5, 4 years
90. The perpendiculars drawn from the vertices of the triangle on their opposite sides meet at a point. This point is known as:
 a) Incentre b) Circumcenter c) Centroid d) Orthocenter

General Knowledge

91. 'International Labor Day' is observed on
 a) May 1 b) June 1 c) April 1 d) July 1
92. Which planet is known as 'King of the Planets'?
 a) Mars b) Uranus c) Jupiter d) Saturn

- KIST COLLEGE & SS – ENTRANCE SAMPLE TEST (SCIENCE) SET A