



Trinity Entrance Test 2019

+2 Science

Set A

Time: 1 hr 30 mins

Full Marks: 100

Welcome to the Trinity Entrance Test 2019!

This Test assesses a student's competency to undertake a +2 Programme in **Science**. It contains 100 multiple choice questions – English (20), Mathematics (20), Science (50) 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: A student divided a number by $\frac{2}{3}$ when he required to multiply it by $\frac{3}{2}$. Calculate the percentage of error in his result.

A) 100 B) 66 C) 0 D) 33

The answer is '0'; 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.

1. To.....yourself from.....wear warm clothes.
A. prohibit, heat B. protect, cod C. save, heat D. suffer, cold
2. He **made a mess of** the whole work. The meaning of idiom in bold type is:
A. confused B. exaggerated C. corrected D. accomplished
3. Nepal lies.....north of India.
A. on B. in C. about D. to
4. Julia is anxious..... exam results.
A. for B. about C. from D. with
5.he was absent for three weeks, he still completed his work.
A. Despite B. In spite of C. Though D. Nevertheless
6. You.....be punctual for classes.
A. should B. can C. might D. could
7. He is.....man of high esteem.
A. an B. a C. some D. none
8. If I had known....., I would never have asked you about it.
A. was doing B. how to do C. to do D. how it was done
9. He.....a call to his father.
A. told B. said C. paid D. asked
10. No sooner.....
A. did he see me then he left B. he saw me he called
C. had he seen me than he spoke to me D. had he saw me than he called me
11. The boy's face wore a.....look.
A. sullener B. sully C. sullen D. sullenly
12. The economy of Nepal is lower than.....western countries.
A. which of B. those of C. that of D. this of
13. Temporary teeth need just.....permanent teeth.
A. as care as B. the most care than C. as much care as D. more care as
14. Something was suspicious,.....?
A. was it B. isn't it C. is it D. wasn't it
15. The word nearest in meaning to CLEMENCY is:
A. pardon B. imprisoned C. retained D. punished

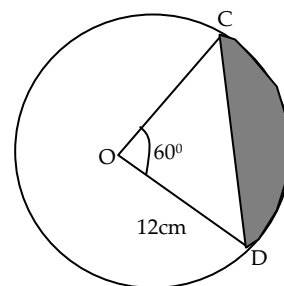
Questions 16-20 are based on the given passage:

On the 16th of August, 1987 when I was told I had cancer of lungs, my relatives and friends were alarmed at the apparent calm with which I received the news. I suppose they overlooked the fact that at my age (I turned 72 on January 26) you develop a practical acceptance which helps face the impact of events even such shocks. Besides, the tendency to set a good example as head of a large family somehow grows on you. However, despite the outward bravado, deep inside, I was jolted by the news. This was because, as far back as I can remember, my health has never given me cause for concern.

16. The 'I' in the passage stands for
A. the nurse B. the patient C. the doctor D. an accident victim
17. The narrator in this passage suffers from
A. tuberculosis B. typhoid C. cancer of the lungs D. bone cancer

18. In terms of age, the patient is
 A. a young man B. a school-going kid C. a middle-aged man D. an old man
19. On hearing of the disease that has struck him, the narrator feels
 A. relieved B. anxious C. indifferent D. shocked
20. Before the disease struck him, the narrator's health had always been
 A. good B. poor C. indifferent D. full of problems
21. If A and B are two non empty sets then $(A \cup B) - (A \cap B)$ equals to
 A. $(A - B) \cup (B - A)$ B. $(A \cup B) - B$
 C. $(A - B) \cap (B - A)$ D. $A - (A - B)$
22. For an A.P if $t_{25} - t_{15} = 170$ then common difference of the progression is
 A. 17 B. -17 C. 10 D. 34
23. $A = \begin{pmatrix} 1 & 2 \\ 0 & 1 \end{pmatrix}$ then $A^n =$
 A. $\begin{pmatrix} 1 & 2n \\ 0 & 1 \end{pmatrix}$ B. $\begin{pmatrix} 2 & n \\ 0 & 1 \end{pmatrix}$ C. $\begin{pmatrix} 1 & 2 \\ 1 & 0 \end{pmatrix}$ D. $\begin{pmatrix} n & 2 \\ 0 & 1 \end{pmatrix}$
24. The angle between the lines $x \cos \alpha + y \sin \alpha = p$ and $x \cos \beta + y \sin \beta = q$ is
 A. $|\alpha + \beta|$ B. $|\alpha - \beta|$ C. $2|\alpha + \beta|$ D. $2|\alpha - \beta|$
25. The inclination of the line $\sqrt{3}x - y = 2$ to the x-axis is
 A. 60° B. 120° C. 150° D. 30°
26. The coordinate of vertices of a triangle are (0, 2), (2, 4) and (1, 6), then the area Δ in sq. unit is
 A. 2 B. 3 C. 4 D. 5
27. For what value of k, the polynomial $kx^3 + 3x^2 - 12$ and $2x^3 - 5x + k$ when divided by $x + 2$ leaves the same remainder?
 A. $2/3$ B. -13 C. $-3/5$ D. $5/9$
28. If the number of diagonal of a polygon is equal to the number of its sides then the polygon is a
 A. quadrilateral B. pentagon C. hexagon D. octagon
29. The position vector of A and B are $2\vec{i} - \vec{j} + 4\vec{k}$ and $\vec{i} + 3\vec{j} + \vec{k}$ then magnitude of \overline{AB} is
 A. $\sqrt{30}$ B. $\sqrt{26}$ C. $\sqrt{42}$ D. $\sqrt{15}$
30. The value of x in the equation $\frac{5^{2x} + 1}{5^x} = 5\frac{1}{5}$ is
 A. -1, 1 B. -2, 3 C. 3, -2 D. -5, 5
31. What is the single discount of two successive discounts 15% and 10%?
 A. 25% B. 27.5% C. 23.5% D. 22%
32. If 20 men or 30 boys can do a piece of work in 36 days, in how many days will 10 men and 12 boys do it?
 A. 15 B. 20 C. 30 D. 40
33. Ram is 3 times as old as Hari, and Hari is four year older than Shyam. If Shyam is z year's old what is Ram age?
 A. $3z + 4$ B. $\frac{z+4}{3}$ C. $3z - 12$ D. $3z + 12$
34. If $0 < x < 1$ which of the following sets are in the increasing order
 A. \sqrt{x}, x, x^2 B. x, x^2, \sqrt{x} C. x^2, x, \sqrt{x} D. x^2, \sqrt{x}, x

35. If $\tan x = k \tan y$ then $(k - 1) \sin(x+y) = \dots$
 A. $(k - 1) \sin(x - y)$ B. $(k + 1) \sin(x - y)$ C. $(k + 1)^2 \sin(x - y)$ D. $(k - 1)^2 \sin(x - y)$
36. If $2\cos x \cos y = 1$ and $\tan x + \tan y = 2$ then value of x and y is
 A. $45^\circ, 45^\circ$ B. $45^\circ, 60^\circ$ C. $60^\circ, 90^\circ$ D. $90^\circ, 120^\circ$
37. If $f(x + 1) = x + 2$ then $f(x - 1)$ is
 A. 2 B. $x - 1$ C. x D. $x + 1$
38. Ram bought some pen for Rs. 90. If he paid Rs. 1 less for each, he would have 3 more pens. How many pens did he buy?
 A. 18 B. 15 C. 9 D. 10
39. The probability that a boy will get a scholarship is 0.75 and that a girl will get is 0.72 what is the probability that at least one of them will get scholarship is
 A. 1 B. 0.96 C. 0.93 D. 1.47
40. What is the area of shaded region
 A. $144\pi - 144\sqrt{3}$ B. $144\pi - 36\sqrt{3}$
 C. $24\pi - 36\sqrt{3}$ D. $144\pi - 72$



41. The ball is thrown up. The direction of 'g' will be
 A. Vertically downward B. Vertically upward
 C. Horizontal D. None
42. A stone is dropped from the cliff. It's speed after falling 10 m from the top is
 A. 9.8m/s B. $10\sqrt{2}$ m/s C. 19.6m/s D. 98m/s
43. Pressure at a depth of 0km below the surface of sea water of density 1030kg/m^3 is
 A. $1.01 \times 10^5 \text{pa}$ B. $1.04 \times 10^7 \text{pa}$ C. 1atm D. None
44. Which among the following is not a renewable source of energy?
 A. Solar energy B. Biomass energy C. Hydro-power D. Geothermal energy
45. The body temperature of a patient is 40°C . This temperature is equivalent to
 A. 98°F B. 100°F C. 102°F D. 104°F
46. What is the power of the spectacles which has the focal length 100cm?
 A. +1.0D B. +3.0D C. +2.5D D. 10.0D
47. Which instrument is used for measuring electric potential?
 A. Ammeter B. Galvanometer C. Voltmeter D. Potentiometer
48. A resistor having resistance 5Ω is connected across a battery of 5 V by means of a wire of negligible resistance. Current passes through resistor is 0.4 A. The total power produced by battery is
 A. 2 W B. 3 W C. 5 W D. 6 W
49. What is electromagnetic induction?
 A. The process of charging a body
 B. The process of rotating a coil of an electric motor.
 C. Reducing induced current in a coil due to relative motion between a magnet and the coil
 D. The process of generating magnetic field due to a current passing through a coil.
50. Addition of a vector with its reversed direction with another vector is called
 A. Vector addition B. Vector subtraction C. Vector division D. Vector multiplication

51. Numerical ratio of displacement to distance is
A. <1 B. >1 C. ≤ 1 D. ≥ 1
52. When the net force on a body is zero, which of the following may be false?
A. The body is at rest B. The body is in motion
C. Its acceleration is zero D. None of the above
53. If the velocity of the body increases by 10 times, the kinetic energy of the body increases by
A. 10 times B. 50 times C. 100 times D. 25 times
54. Ship sonar sends down a signal of 6000Hz through water where the speed of sound is 1500m/s. The echo from the sea bed is received after 2 seconds. What is the depth of the sea bed?
A. 15m B. 150m C. 1050m D. 1500m
55. A person of mass 45 kg carries a load of 10N. If he climbs upstairs 10 m high, what is the work done by the person?
A. 460 Joule B. 550 Joule C. 4600 Joule D. 5500 Joule
56. The electronic configuration of calcium is
A. 2, 8, 8, 1 B. 2, 8, 8, 2 C. 2, 8, 8, 3 D. 2, 8, 8
57. The metal x forms a salt with nitrate ion is $X(\text{NO}_3)_3$. The valency of metal is
A. 1 B. 2 C. 3 D. 4
58. Formation of ammonia from nitrogen and hydrogen is an example of
A. Addition reaction B. Decomposition reaction
C. Displacement reaction D. Acid-Base reaction
59. In the following reaction
 $4\text{CHCl}_3 + 3\text{O}_2 \xrightarrow{\text{C}_2\text{H}_5\text{OH}} 4\text{COCl}_2 + 2\text{H}_2\text{O} + 2\text{Cl}_2$, $\text{C}_2\text{H}_5\text{OH}$ act as a
A. Positive catalyst B. Negative catalyst
C. Auto catalyst D. Induced catalyst
60. The product formed when dilute hydrochloric acid is added to the lime stone is
A. $\text{CO}_2 + \text{H}_2\text{O} + \text{CaCl}$ B. $\text{CO}_2 + \text{H}_2\text{O} + \text{CaCl}_2$
C. $\text{CO}_2 + \text{H}_2\text{O} + \text{CaCl}_3$ D. $\text{CO} + \text{H}_2\text{O} + \text{CaCl}_2$
61. Phenolphthalein is an example of acid-base indicator. It's colour in basic medium is
A. Blue B. Red C. Pink D. Colourless
62. Wet red litmus paper changed into blue when contact with
A. Hydrogen gas B. Oxygen gas C. Ammonia gas D. Carbondioxide gas
63. Which of the following statement is correct for an acid?
A. Acid liberate H^+ ion in aqueous solution B. Acid has a sour taste
C. Acid produce salt and water with base D. All of them are correct
64. The important ore of iron is
A. Bauxite B. Haematite C. Chalcopyrite D. Argentite
65. Which of the following statement is not correct?
A. There is no effect of air and water on gold B. Gold is used to prepare gold solution
C. Gold is active metal D. Gold dissolve in aqua-regia
66. Which of the following pairs are the example of same homologous series?
A. C_2H_4 & C_2H_2 B. HCHO and CH_3OCH_3
C. CH_3OCH_3 and $\text{C}_2\text{H}_5\text{OH}$ D. $\text{C}_2\text{H}_5\text{OH}$ and $\text{C}_3\text{H}_7\text{OH}$

67. Glycerol is an example of
 A. Monohydric alcohol
 B. Dihydric alcohol
 C. Trihydric alcohol
 D. Tetrahydric alcohol
68. Hard glass is the homologous mixture of
 A. K_2SiO_3 & $CaSiO_3$
 B. Na_2SiO_3 & $CaSiO_3$
 C. Na_2SiO_3 & K_2SiO_3
 D. K_2SiO_3 & $PbSiO_3$
69. Raw material of soap is
 A. Glycerol
 B. Acid and NaOH
 C. Fat and NaOH
 D. Sodium and NaOH
70. Diamond and Graphite are the
 A. Isotopes of Carbon
 B. Allotropes of Carbon
 C. Isobar of Carbon
 D. Isotones of Carbon
71. Asexual reproduction by budding is observed in
 A. *Amoeba* and *Plasmodium*
 B. *Plasmodium* and *Hydra*
 C. *Hydra* and Yeast
 D. Yeast and *Amoeba*
72. Reproductive whorls of a flower include
 A. Calyx and corolla
 B. Corolla and androecium
 C. Androecium and gynoecium
 D. Calyx, corolla, androecium and gynoecium
73. Mendel's dihybrid genotypic ratio is
 A. 1:2:4:2:1:2:1:1
 B. 1:2:2:4:1:2:1:2:1
 C. 1:2:1:2:4:1:2:2:1
 D. 1:2:2:4:2:2:1:2:1
74. The category "Division" comes in between
 A. Kingdom and class
 B. Class and family
 C. Kingdom and phylum
 D. Phylum and order
75. Comma-shaped bacteria are
 A. Cocci
 B. Bacilli
 C. Spirilla
 D. Vibrio
76. Xylem in plants is
 A. Meristematic tissue
 B. Simple permanent tissue
 C. Complex permanent tissue
 D. Special permanent tissue
77. The first virus to be crystallized was
 A. T_2 phage
 B. TMV
 C. Retro virus
 D. Potato mosaic virus
78. Yeast, *Mucor*, *Rhizopus* belongs to
 A. Algae
 B. Bryophytes
 C. Fungi
 D. Gymnosperms
79. Monocots differ from dicots in having
 A. Fibrous root system
 B. Tap root system
 C. Reticulate venation
 D. Broad leaf

80. Which cell organelle is referred as "ATP factory of cell"?
- A. Golgi Bodies B. Lysosomes C. Mitochondria D. Ribosome
81. Number of false ribs in human thoracic cage are
- A. 1 pair B. 2 pairs C. 3 pairs D. 7 pairs
82. Which one is carbohydrate digesting enzyme?
- A. Amylase B. Trypsin C. Pepsin D. Rennin
83. Organ of Corti is present in which of the following sense organs?
- A. Ear B. Eye C. Tongue D. Nose
84. *Archaeopteryx* is the connecting link animal which connects
- A. Annelida & Arthropoda B. Arthropoda & Mollusca
C. Reptilia & Aves D. Aves & Mammal
85. Which of the adult bees secretes wax from wax glands?
- A. Queen bee B. Drone bee C. Worker bee D. All of them
86. Autonomic nervous system consists
- A. Sympathetic & parasympathetic nerves B. Spinal cord
C. Cerebrum D. Medulla
87. Insulin hormone is secreted from
- A. Pituitary gland B. Thyroid gland
C. Adrenal gland D. Pancreas
88. I am ameboid and nucleated cell of human blood. Who am I?
- A. RBC B. WBC C. Platelet D. Plasma
89. Malaria is caused by
- A. *Plasmodium* B. *Anopheles* C. *Culex* D. *Aedes*
90. Scientific name of Bengal Tiger is
- A. *Elephas maximus* B. *Panthera uncia*
C. *Panthera tigris* D. *Axis axis*
91. Which of the following is the fullform of D.T.H?
- A. Display to home B. Digital to home C. Disk to home D. Drive to home
92. SAARC information center is at
- A. Nepal B. Bhutan C. India D. Pakistan
93. Which of the following is the border between Germany and Poland?
- A. 17 Parallel B. Hindenberg line C. McMohan line D. 49 parallel

94. First Nepali cinema made in Nepal is
A. Satya Harischandra B. Aama
C. Kumari D. Maitighar
95. Who is the writer of the National Anthem of Nepal?
A. Pradip Kumar Rai B. Ambar Gurung
C. Chakrapani Chalise D. Ram Kumar Rai
96. The host country of Cricket World Cup 2019 is
A. United Kingdom B. England and Wales C. England and Scotland D. England and Ireland
97. Asoj 1 is celebrated as
A. Bigyan Diwas B. Dhan Diwas C. Sambidhan Diwas D. None
98. Kathmandu is related with
A. Pashupatinath B. Phewa Lake C. Basantapur D. Both A and C
99. "Every moment is a fresh beginning". This quotation is related with
A. T.S. Eliot B. Karen Laub C. George Eliot D. Alcoin
100. "Yuva Kabi" is
A. Laxmi Prasad Devkota B. Bhanubhakta Acharya
C. Motiram Bhatta D. Madhav Prasad Ghimire

