DEPARTMENT OF SCHOOL EDUCATION – TIRUVANNAMALAI DISTRICT

National Means-cum-Merit Scholarship Scheme Examination (NMMS) -2023-24

(Model Exam-1 For students of class VIII)

PART-II SCHOLASTIC APTITUDE TEST (SAT)

Time: 90 min. Max marks: 90

MATHEMATICS

1. The Value of $\left[\left(\frac{-2}{3}\right)^{-2}\right]^{2}$ is

(1) $5\frac{1}{6}$ (2) $5\frac{1}{16}$

(3) $4\frac{7}{16}$ (4) $\frac{-16}{81}$

2. The area of the circle with diameter d?

(1) $\frac{\pi d^2}{4}$ (2) πd^2

(3) $\frac{\pi d^2}{2}$ (4) $2\pi d^2$

3. The number which is 30% less than 80?

(1) 65 (2) 56

(3) 46 (4) 58

4. Which is the correct statement?

(1) The product of a rational number and its inverse is 0.

(2) Multiple Inverse of m is $\frac{1}{m}$, [m ≠ 0]

(3) 0 is not a rational number.

(4) The sum of a rational number and its addition inverse is 1.

5. Additive inverse of 12 - (-22) is

(1) -10 (2) 10

(3) 34 (4) -34

6. If x % of y = A and y % of x = B, then, which of the following is correct?

(1) A + B = $x + y$ (2) $x = y$

(3) A = B (4) A% of B = $x = y$

7. Match the follwing.

a) $x + y = y + x$ - i) Multiplicative inverse

b) $x + 0 = x$ - ii) Additive inverse

c) $y \times \frac{1}{y} = 1$ - iii) Associative Property

d) $x + [(-y) + z] = [x + (-y)] + z$ - iv) Identity property for Addition

e) $z + (-z) = 0$ - v) Commutative property

(1) a - v b - i c - iv d - ii e - iii

(2) a - iv b - i c - v d - ii e - iii

(3) a - v b - iv c - i d - ii e - iii

(4) a - v b - iv c - i d - iii e - ii

8. A white grid on a chessboard has a side of 3 cm. If so, what is the area of all the black grids?

(1) 96 sq.cm. (2) 192 sq.cm

(3) 288 sq.cm (4) 576 sq.cm

9. The value of $\frac{10^{10}+10^{12}}{10^{10}}$ is

(1) 101 (2) 10

(3) 10^{12} (4) 10^{22}

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LIVEWORKSHEETS

10. If the price of 5 bananas is ₹ 20, then what is the cost of 1 dozen bananas?

(1) ₹100 (2) ₹40

(3) ₹48 (4) ₹42

11. If the sum of the multiples of the four successive 6 is 468, which of them is the second smallest number?

(1) 114 (2) 124

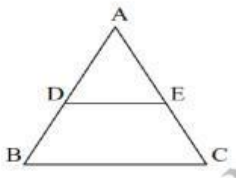
(3) 118 (4) 108

12. A quadrilateral having exactly two lines of symmetry and a rotational symmetry of order two is a

(1) Square (2) Parallelogram

(3) Rhombus (4) Kite

13. In given figure, If $\angle A = 68^0$, DE||BC, $\angle B = 43^0$, then $\angle ADE$=?



(1) 69^0 (2) 43^0

(3) 112^0 (4) 111^0

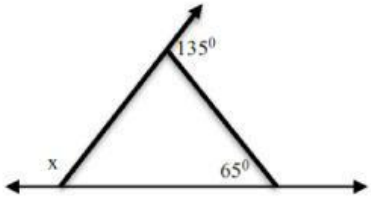
14. The value of

$$\sqrt{\sqrt{81}+\sqrt{169}+\sqrt{256}-\sqrt{4}} \text{ is}$$

(1) 8 (2) 4

(3) 6 (4) 36

15. In given figure, What is the value of x ?



(1) 45^0 (2) 100^0

(3) 65^0 (4) 110^0

16. Which of the following is wrong?

(1) $2^0 = (1000)^0$ (2) $2^5 \times 2^6 = 2^{11}$

(3) $2^3 \times 3^2 = 6^5$ (4) $2^3 < 3^2$

17. We need ---------- independent measures to construct a isosceles trapezium.

(1) 5 (2) 4

(3) 3 (4) 2

18. Match the following

i) $(2x+3)(2x-3)$	-	a. $-10x^3y+6xy$
ii) $5x(4xy-4)$	-	b. $-12y^3$
iii) $-2xy(5x^2-3)$	-	c. $4x^2-9$
iv) $4y^2(-3y)$	-	d. $20x^2y-20x$

(1) i - b ii - a iii - d iv - b

(2) i - c ii - d iii - a iv - b

(3) i - b ii - d iii - c iv - a

(4) i - c ii - a iii - b iv - d

19. If one side of a triangle is 8cm, which of the following will be the other two sides?

(1) 5cm, 14cm (2) 5cm, 3cm

(3) 12cm, 22cm (4) 13cm, 6cm

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LIVEWORKSHEETS

20. How many **9s** are there in two-digit numbers?

(1) 18 (2) 19

(3) 9 (4) 17

SCIENCE

21. The unit used for measuring the distance in the field of aviation and sea transportation.

(1) Mile (2) Nautical mile

(3) kilometer (4) meter

22. Find the volume of the cylinder whose radius is 3 m and height is 7 m.

(1) 21 m^2 (2) 21 m^3

(3) 198 m^3 (4) 198 m^2

23. Match the following

a) astronomical unit. - i) 4.22 light year

b) Light year - ii) 3.153×10^7 sec

c) one year - iii) 1.496×10^{11}m

d) Proxima Centauri-iv) 9.46×10^{15} m

(1) a - iii: b - i: c – iv: d – ii:

(2) a - iii : b - iv : c - i : d – ii:

(3) a - iii : b - iv : c - ii : d – i

(4) a - i : b – ii c - iii : d – iv

24. Suppose a boy is enjoying a ride on a merry go round which is moving with a constant speed of 10 m/s. It implies that the boy is

(1 at rest

(2) moving with no acceleration

(3) in accelerated motion

(4) moving with uniform velocity

25. An element that It is combined with other elements to make medicine for treating diarrhea is

(1) antimony (2) bismuth

(3) oxygen (4) silicon

26. The first scientist to use the symbols for elements in a very specific sense.

(1) Bercillius (2) Dalton

(3) Boyle (4) Lavoisier

27. Atomicity of sulphuric acid (H_2SO_4)

(1) 2 (2) 4

(3) 6 (4) 7

28. The difference between the mass number of proton and neutron

(1) 0.0023 (2) 0.0024

(3) 0.0025 (4) 0.0026

29. A sulphur atom contains 16 protons and 16 neutrons. Calculate its atomic number and mass number

(1) 16 &16 (2) 16 & 18

(3) 16 & 32 (4) 32 & 16

30. The atomic number of an element is 9. It has 10 neutrons. Find the element from the periodic table. What will be its mass number?

(1) Fluorine 19 (2) Neon 18

(3) Oxygen 17 (4) Silicon 19

31. The smallest seeds in the plant kingdom

(1) Peas (2) Paddy

(3) Orchid (4) Double coconut

32. Pick the odd one out

(1) Rhizome (2) Runner

(3) Corm (4) Bulb

33. Leaf juice of this plant is used to cure wounds and cuts

(1) Hibiscus rosasinensis

(2) Tridax procumbans

(3) Oriza sataiva

(4) Allium sativam

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LIVEWORKSHEETS

34. Match the following.

a) Stolon - i) Vallarai

b) Offset - ii) Chrysanthemum

c) Sucker - iii) Eichhornia

d) Runner - iv) Strawberry.

(1) a - iv; b - iii; c – ii; d – i;

(2) a - iii; b - iv; c - i; d – ii;

(3) a - iii; b - iv; c - ii; d – i;

(4) a - i; b – ii c - iii; d – iv;

35. This is a severe form of gum disease ruin the bones,
gums, and other tissues

(1 Bleeding gums

(2 Periodontitis

(3) Night blindness .

(4) Tooth decay

36. Disease that is not caused by bacteria

(1) Tuberculosis (2) Chicken pox

(3) Cholera (4) Typhoid

37. Ramu got fire injury in his Dermis layer. What type of burn is it?

(1) First-degree burns

(2) Second -degree burns

(3) Third-degree burns

(4) Fourth -degree burns

38. Match the following

a) Rabies - i) Salmonella

b) Tuberculosis- ii) Yellowish urine

c) Hepatitis - iii) Hydrophobia

d) Typhoid - iv) Mycobacterium

(1) a - iii; b - iv; c - i; d – ii;

(2) a - iv; b - iii; c – ii; d – i;

(3) a - iii; b - iv; c - ii; d – i;

(4) a - i; b – ii c - iii; d – iv;

39. One Gallon is equal to ____ ml

(1) 3782 (2) 3785

(3) 3786 (4) 3787

40. If 2 coulomb of charge flows through a circuit for 10 seconds, calculate the current.

(1) 0.2 A (2) 20 A

(3) 2 A (4) 200 A

41. Convert π/4 into degrees.

(1) 4 degree (2) 41 degree

(3) 35 degree (4) 45 degree

42. The average weight of an elephant is 4000 N. The surface area of the sole of its foot is 00.1 m^2. Calculate the pressure exerted by one foot of an elephant.

(1) $1Nm^{-2}$ (2) 10^4 Nm

(3) $1000Nm^{-2}$ (4) 10^4 Nm^{-2}

43. The freshness of fish and meat can be maintained by placing them in contact with is because of.

(1) Presence of salt in fish

(2) Presence of energy in fish

(3) Larger latent heat of ice

(4) Lesser latent heat of ice

44. SI of specific energy is

(1) Jkg (2) Jkg -3

(3) Jkg -1 (4) Jkg -2

45. Producer gas is a gaseous mixture of

(1) carbon dioxide and nitrogen

(2) carbon monoxide and nitrogen

(3) carbon dioxide and hydrogen

(4) carbon monoxide and hydrogen

46. This is the simplest hydrocarbon

(1) methane (2) ethane

(3) propane (4) butane

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LIVEWORKSHEETS

47. The process of heating a mixture of liquids having different boiling points and then separating them by cooling is called

(1) filtration

(2) heating

(3) destructive distillation

(4) fractional distillation

48. Match the following.

a) Magnesium hydroxide -i) NaOH

b) Sodium hydroxide - ii) NH4OH

c) Ammonium hydroxide - iii) Ca(OH)2

d) Calcium hydroxide - iv) Mg(OH)2

(1) a - iv : b - i : c - ii : d – iii:

(2) a - iv: b - iii: c – ii: d – i:

(3) a - iii : b - iv : c - ii : d – i

(4) a - i : b – ii c - iii : d – iv

49. When we are bitten by wasp, we feel the burning sensation and pain. It is due to an _____ substance injected by the insect.

(1) formic acid (2) acetic acid

(3) alkaline (4) vinegar

50. The percentage of propane in average composition in CNG

(1) 3.7 (2) 5.5

(3) 88.5 (4) 1.8

51. Bio-gas is a mixture of

(1) methane and carbon monoxide

(2) methane and carbon dioxide

(3) ethane and carbon monoxide

(4) ethane and carbon dioxide

52. The percentage of carbon in Anthracite is

(1) 86-97% (2) 25 - 35 %

(3) 35 - 44 % (4) 45 - 86 %

53. The number used to measures the ignition delay of the fuel in diesel engine

(1) heptane number (2) decane number

(3) octane number (4) cetane number

54. Based on the classification of cell shape which one does not belong to this classification

(1) bacilli (2) flagella

(3) spirilla (4) cocci

55. Yeast aids in fermentation with the help of the enzyme

(1) Lipase (2) Lactase

(3) Zymase (4) Invertase

SOCIAL SCIENCE

56. Find the odd man out :

(1) Babur (2) Humayun

(3) Akbar (4) Sher shah

57. The chief architect of Taj Mahal is

(1) Jahangir (2) Sir.Thomas Roe

(3) Mumtaj (4) Ustad Isa

58. The World Heritage Day is celebrated every year on _____.

(1) 14th November (2) 5th September

(3) 18th April (4) 20th November

59. _____ in his book. The History of India refers to the seventeen expenditure of Mohammad of Ghazni.

(1) Brahma Gupta (2) Sir Henry Elliot

(3) Manaka (4) Bhala

60. _____ was called as ' Lak Baksh'

.

(1) Qutb-ud-din-Aibak (2) Iltumish

(3) Balban (4) Sultan Raziah

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LIVEWORKSHEETS

61. In Tughlu Dynasty _____ introduced the Employment Bureau.

(1) Mohammad-bin-Tughluq

(2) Firoz Tughluq

(3) Ghiyas-ud-din-Tughluq

(4) Nasir-ud-din Mohammad Tughluq

62. Vittalaswami Temple was constructed during the reign of _____.

(1) Harihara (2) Devaraya II

(3) Devaraya I (4) Krishna Deva Raya

63. Arrange in the chronological order.

a) The Rohilla War

b) The Second Anglo Mysore War

c) The Treaty of Mangalore

d) The First Anglo Maratha War

(1) (a),(c),(b),(d) (2) (a),(b),(c),(d)

(3) (a),(d),(c),(d) (4) (d),(b),(a),(c)

64. Find the correct pairs from the following:

a) Karaj Tax - (i) 1/10 of the produce of the land

b) Khams - (ii) 1/5 of the war booty

c) Jizya- (iii) Tax on Muslims for specific religious purposes

d) Zakat - (iv) Poll Tax

(1) (i) and (iii) (2) (i) and (ii)

(3) (iii) and (iv) (4) (i) and (iv)

65. Match the following :

a) Mahendra Varman -1 (i) Mummudi Chola

b) Narasimha Varman -1 (ii) Chitra Karapuli

c) Rajaraja I (iii) Gangai Kondan

d) Rajendran I (iv) Vatapi Kondan

1) (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)

2) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)

3) (a) - (i), (b) - (ii), (c) - (iii), (d) - (iv)

4) (a) - (iii), (b) - (i), (c) - (ii), (d) - (iv)

66. _____ assumed the title of Mohammad-bin-Tughluq.

(1) Junakhan (2) Ghazi Malik

(3) Firoz (4) Abu Bakr Shah

67. Which century did the excavated objects articles at Keezhadi belong to ?

(1) 1st Century BC (2) 2nd Century BC

(3) 4th Century (4) 6th Century BC

68. Which place of Tamil Nadu was mentioned in Chanakya's Artha Astra?

(1) Tanjore (2) Madurai

(3) Vanji (4) Kanchi

69. Pick the odd man out :

(1) Potash (2) Nitrate

(3) Mica (4) Hematite

70. Choose the incorrect pair:

No mads	Country
(1) Bushman	-Africa
(2) Jarwas	-Andaman and Nicobar Islands in India
(3) Iskimos	-Canada
(4) Pygmies	-Amazon Basis

71. The waves that cause most of the damages on the surface

(1) P.Waves (2) S.Waves

(3) Secondary Waves (4) L.Waves

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LIVEWORKSHEETS

72. _____ is called 'Mega Ocean'.

(1) Pacific Plate (2) Antarctic Plate

(3) Panthalassa (4) Eurasian Plate

73. Pedestal rock is also called as _____.

(1) Loess (2) Barchans

(3) Mushroom rock (4) Inselberg

74. The Continent without glaciers _____

(1) North America (2) South America

(3) Australia (4) Africa

75. Which is the deepest point in the Indian Ocean?

(1) The Puerto Rica Trench

(2) The Mariana Trench

(3) The Java Trench

(4) South Sandwich Trench

76. When the clouds reach the dew point , they cause rainfall called _____ .

(1) Orographic rainfall

(2) Convectional rainfall

(3) Cyclonic rainfall

(4) None of these

77. 'An enquiry into the nature and causes of wealth of nations' was written by _____.

(1) Adam smith (2) Lionel Robbins

(3) Skinner (4) Albert Marshall

78. Name the item which does not come under GST _____.

(1) Cosmetics (2) Food products

(3) Medicines (4) Petrol

79. The most affected country by tsunami in September 2018:

(1) India (2) Japan

(3) Sri Lanka (4) Indonesia

80. Who is appointed as the Chief Justice of India on 3rd October, 2018?

(1) Justice Ranjan Gogoi

(2) Justice Deepak Misra

(3) Justice P.Sadasivam

(4) Justice H.L Dattu

81. State which of the following statements are true:

a) The General Assembly is called the "Parliament of Mankind"

b) The International Court of justice is also known as the ' World Court'

(1) (a) is true (b) is false

(2) both (a) and (b)

(3) (a) is false (b) is true

(4) Both are false3

82. Choose the correct pair:

a) UNO Day-8th March

b) International Women's Day-19th November

c) Human Rights-10th December

d) National Integration Day-24th October

83. Which country was elected as a member state of Human Rights Council of Un with the highest number of votes in 2018?

(1) Bangladesh (2) Nepal

(3) China (4) India

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LIVEWORKSHEETS

84. Arrange the following clouds from the sea level in ascending order:

(1) Cirrus, Stratus, Cumulus

(2) Cumulus, Cirrus, Stratus

(3) Stratus, Cumulus, Cirrus

(4) Stratus, Cirrus, Cumulus

85. Norte is the cool local wind of

(1) Gulf of Mexico (2) Russia

(3) Central Africa (4) Argentina

86. Aralvaimozhi in Kanyakumari District is the World's Largest _____.

(1) Atomic PowerStation (2) Wind form

(3) Hydro-electric (4) Thermal Power Station

87. Instrument used to measure the expansion of a Volcano is _____ .

(1) Seismograph (2) Tilt Meter

(3) Bolo Meter (4) Baro Meter

88. Okeanus is _____

(1) Physical-Chemical characteristics of Ocean Water

(2) A major body of saline water and a principle component of the hydrosphere

(3) Salinity

(4) Ocean Currents

89. Who laid the foundation of Portuguese power in India?

(1) Vasco da Gama

(2) Almeida

(3) Bartholomew Diaz

(4) Affonso de Albuquerque

90. Statement 1:

Battle of Plassey was fought in the year 1757AD.

Statement 2:

This battle was fought between Nawab of Bengal and British

(1) Statement I and II are correct

(2) Statement I and II are wrong

(3) Statement I is correct and Statement II is wrong

(4) Statement I is wrong and Statement II is correct

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LIVEWORKSHEETS