

# NTSE STAG 1, 2019-20GUJARAT STATE

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## SAT

- Find the remainder when  $x^4 - x^3 + 2x^2 - x - 1$  is divided by  $x + 1$ .  
(A) 2                      (B) -2                      (C) 4                      (D) 0
- Number of zeros which are real numbers of the polynomial  $p(x) = x^3 + 1$ , is \_\_\_\_\_  
(A) 1                      (B) 0                      (C) 3                      (D) 2
- The radius of hemisphere is \_\_\_\_\_ whose total surface area is  $418 \text{ cm}^2$ .  
(A) 7 cm                      (B) 21 cm                      (C) 3.5 cm                      (D) 42 cm
- Median of data 3, 4, -5, -3, 0, 7, 1, 5, 9 is \_\_\_\_\_  
(A) 3                      (B) -3                      (C) 0                      (D) 5
- As shown in figure if  $\angle PQR = 5 : 7$  then  $m\angle SOQ =$   
 $105^\circ$                       (B)  $75^\circ$                       (C)  $90^\circ$                       (D)  $110^\circ$
- In the decimal expansion of a rational number  $\frac{14580}{625 \times 3}$ , there are \_\_\_\_\_ digit(nos) after decimal.  
(A) 2                      (B) 3                      (C) 4                      (D) 5
- The HCF of 96 and 404 then their LCM is \_\_\_\_\_  
(A) 16016                      (B) 9616                      (C) 1250                      (D) 9696
- For a quadratic polynomial  $-x^2 + 2x + 8$  sum of zero is \_\_\_\_\_  
(A) -2                      (B) 2                      (C) -8                      (D) -4
- Zeroes of quadratic polynomial  $p(x) = 2x^2 - 2x + 8$  sum of zeros is \_\_\_\_\_  
(A) 3                      (B) 2                      (C)  $\frac{1}{2}$                       (D) 1
- The pair of eq<sup>n</sup>  $5x - 8y + 1 = 0, 3x - \frac{24}{5}y + \frac{3}{5} = 0$  has  
(A) Unique Solution    (B) Infinity many Solutions  
(C) Two Solution        (D) No Solution

11. After five years the sum of ages of father and his son will 70. Then four years ago sum of their ages was \_\_\_\_\_
- (A) 1                      (B) 2                      (C) 3                      (D) 4
12. HCF of smallest prime number and smallest composite number is \_\_\_\_\_.
- (A) 1                      (B) 2                      (C) 3                      (D) 4
13. 11<sup>th</sup> term of the A.P: -3,-1/2,2.... Is
- (A) 28                      (B) 22                      (C) -38                      (D) -48 ½
14. The sum of the first 1000 positive integers is.....
- (A) 5050                      (B) 50005                      (C) 500500                      (D) 50500
15. Perpendicular distance of point (-2,-3) from y axis is \_\_\_\_\_
- (A) 2                      (B) 3                      (C)  $\sqrt{13}$                       (D) 5
16. The ration in which the line segment joining the points A(1,-5) and B(3,4) is divided by X axis from A ,is \_\_\_\_\_
- (A) -4:5                      (B) 1:3                      (C) 5:4                      (D) -5:4
17. A die is thrown twice. The probability that 5 will come up at least once is \_\_\_\_\_
- (A) 1/6                      (B) 5/36                      (C) 10/36                      (D) 11/36
18. Which of the following cannot be the probability of an event?
- (A) 2/3                      (B) 15%                      (C) 3/2                      (D) 0.7
19. To draw “Less than” ogive we take \_\_\_\_\_ on X axis.
- (A) Cumulative frequency                      (B) Upper Limits  
(C) Lower Limits                      (D) Midpoints
20.  $\sum_{i=1}^9 (xi - \bar{x}) =$
- $8\bar{x}$                       (B)  $9\bar{x}$                       (C) 0                      (D) 9
21. The water kept in an earthen pot(matka) become cool during summer by which process?
- (A) Diffusion                      (B) Sublimation                      (C) Evaporation                      (D) Osmosis

22. Which of the following compound can not be sublimed?  
(A) Sodium Chloride (B) Ammonium Chloride  
(C) Anthracene (D) Camphor
23. What is the molar mass of Nitric acid?[H=1,N=14,O=16]  
(A) 31u (B) 36u (C) 47u (D) 63u
24. An isotope of which element is used in the treatment of cancer?  
(A) Lead (B) Cobalt (C) Uranium (D) Iodine
25. Who discovered the nucleus in the cell?  
(A) Robert Brown (B) Robert Hooke (C) Purkinje (D) Leeuwenhoek
26. The lining of Kidney tubules and duct of Salivary glands are formed by which epithelium?  
(A) Squamous (B) Ciliated (C) Columnar (D) Cuboidal
27. Which of the following animal possesses jawless sucking mouth?  
(A) Lamprey (B) Chameleon (C) String ray (D) Salamander
28. A train starting from rest attains velocity of  $72 \text{ km h}^{-1}$  in 5 min, then find the acceleration.  
(Assuming that the acceleration is uniform)  
(A)  $1/15 \text{ m s}^{-2}$  (B)  $1/10 \text{ ms}^{-2}$  (C)  $5 \text{ ms}^{-2}$  (D)  $10 \text{ ms}^{-2}$
29. Which is the unit of Force?  
(A)  $\text{kg ms}^{-1}$  (B) N.m (C)  $\text{kg ms}^{-2}$  (D) Pa
30. What is the mass of 6 kg object on the moon?  
(A) 1 kg (B) 36 kg (C)  $1/6 \text{ kg}$  (D) 6 kg
31.  $1 \text{ kwh} = \text{_____J}$   
(A)  $36 \times 10^5 \text{J}$  (B)  $3.6 \times 10^5 \text{J}$  (C)  $36 \times 10^6 \text{J}$  (D)  $3.6 \times 10^4 \text{J}$
32. Which of the following animal produce Ultrasound?  
(A) Whale (B) Dolphin (C) Elephant (D) Rhinoceroses
33. Which of the following is not a bacterial disease?  
(A) Anthrax (B) T.B. (C) Dengue (D) Typhoid

34. Which is responsible for increases in global temperature?  
 (A) Ozone layer depletion (B) Acid rain  
 (C) Green house effect (D) Lightning
35. Which fish feeds in the middle zone of the pond?  
 (A) Catla (B) Mrigal (C) Common Carp (D) Rohu
36. Which of the following gases can be used for storage of fresh sample of an oil for a long time?  
 (A) Carbon dioxide or oxygen (B) Nitrogen or Oxygen  
 (C) Carbon dioxide or helium (D) Nitrogen or helium
37. Which of the following are combination reaction?  
 (i)  $2\text{KClO}_3 \xrightarrow{\Delta} 2\text{KCl} + 3\text{O}_2$  (ii)  $\text{MgO} + \text{H}_2\text{O} \rightarrow \text{Mg(OH)}_2$   
 (iii)  $4\text{Al} + 3\text{O}_2 \rightarrow 2\text{Al}_2\text{O}_3$  (iv)  $\text{Zn} + \text{FeSO}_4 \rightarrow \text{ZnSO}_4 + \text{Fe}$   
 (A) (i) and (iii) (B) (iii) and (iv) (C) (ii) and (iv) (D) (ii) and (iii)
38. Our teeth enamel is made up of \_\_\_\_\_  
 (A)  $\text{Ca}_3(\text{PO}_4)_2$  (B)  $\text{Ca}_2(\text{PO}_4)_3$  (C)  $\text{Mg(OH)}_2$  (D)  $\text{CaPO}_4$
39. Which acid is present in tomato?  
 (A) Citric Acid (B) Acetic Acid (C) Oxalic Acid (D) Tartaric Acid
40. What is the common name of compound  $\text{CaOCl}_2$ ?  
 (A) Quick lime (B) Bleaching powder (C) Slaked lime (D) Baking powder
41. Cinnabar is an ore of which metal?  
 (A) Hg (B) Pb (C) Zn (D) Cu
42. Which is the alloy of copper and tin?  
 (A) Brass (B) Steel (C) Solder (D) Bronze
43. Which of the following is an example of roasting?  
 (A)  $\text{ZnCO}_3 \xrightarrow{\Delta} \text{ZnO} + \text{CO}_2$  (B)  $2\text{ZnS} + 3\text{O}_2 \rightarrow 2\text{ZnO} + 2\text{SO}_2$   
 (C)  $\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$  (D)  $\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

44. Which enzyme is present in pancreatic juice for digestion of proteins?  
(A) Lipase            (B) Trypsin            (C) Amylase            (D) Ptyalin
45. During the process of photosynthesis which of the following event does not occur?  
(A) Absorption of light energy by chlorophyll.  
(B) Conversion of light energy to chemical energy.  
(C) Oxidation of carbon dioxide to carbohydrates.  
(D) Reduction of carbon dioxide to carbohydrates.
46. Which of the following is carried by lymph which is digested and absorbed from intestine?  
(A) Fat            (B) Protein            (C) Minerals            (D) Carbohydrates
47. In animals, control and co-ordination are provided by which tissues?  
(A) Skeletal and Muscular tissue            (B) Nervous and Connective tissue  
(C) Muscular and Epithelial tissue            (D) Nervous and Muscular tissue
48. Which is the main thinking part of the brain?  
(A) Forebrain            (B) Midbrain            (C) Hind Brain            (D) Pons
49. Which hormone regulates metabolism for body growth?  
(A) adrenalaline            (B) Thyroxine            (C) Growth hormone            (D) Insulin
50. Find the power of a concave lens of focal length 2m?  
(A) -0.5D            (B) +0.5 D            (C) -4.0 D            (D) +4.0 D
51. The central point of a lens is known as \_\_\_\_\_  
(A) Centre of curvature            (B) Principal focus  
(C) Optical centre            (D) Pole
52. For a young adult with normal vision, what is the value of least distance?  
(A) 25 cm            (B) 25mm            (C) 25m            (D) 50 m
53. The idea that the sunlight is made up of seven colours was given by?  
(A) Einstein            (B) Newton            (C) Tyndall            (D) Dalton

54. Calculate the number of electrons constituting one coulomb of charge.  
(A)  $6.25 \times 10^{19}$  (B)  $1.6 \times 10^{19}$  (C)  $6.25 \times 10^{20}$  (D)  $6.25 \times 10^{18}$
55. If the value of resistance is doubled , the current gets\_\_\_\_.  
halved (B) Doubled (C) four times (D) remains same
56. An electric bulb is connected to a 220 v generator. The current is 500 mA. what is the power of the bulb?  
(A) 120 w (B) 100 w (C) 110 w (D) 500w
57. What is the melting point of tungsten used for making bulb filaments?  
 $3350^{\circ}C$  (B)  $3380^{\circ}C$  (C)  $3550^{\circ}C$  (D)  $3580^{\circ}C$
58. A solar typical cell can produce about \_\_\_\_\_watt electricity.  
(A) 0.4 W (B) 0.5 W (C) 0.6 W (D) 0.7 W
59. In which place of Gujarat,the nuclear power reactor is situated?  
(A) Kakrapar (B) Ukai (C) Wanakbori (D) Gandhinagar
60. Primary consumers from \_\_\_\_\_ trophic level.  
(A) First (B) Second (C) Third (D) Fourth
61. Who were the first to arrive in India for trade?  
(A) English (B) Dutch (C) Portuguese (D) Danish
62. In which treaty had the seed of World War-II been sown?  
(A) Frankfurt Treaty (B) Treaty of Versailles  
(C) Treaty of France and Britain (D) treaty of Germany and Hungary
63. Where is the head quarter of 'International Court of Justice' situated?  
(A) Washington(America) (B) Moscow(Russia)  
(C) London(Britain) (D) Hague(Netherland)
64. Who sorted out the issue of merging the Princely States in the Union of India?  
(A) Sardar Vallabhbhai Patel (B) Jawaharlal Nehru  
(C) Mount Batten (D) Chakravarti C. Rajagopalachari

65. Where have the goals of the United Nations been explained?  
(A) In the manifesto of the United Nations  
(B) In the human rights of the United Nations  
(C) In the constitution of United Nations' Security Council  
(D) In the preamble of the United Nations' Charter
66. What is the capital of Goa?  
Puducherry (B) Mahe (C) Panaji (D) Karaikal
67. Who was the chairman of the Constituent Assembly?  
(A) Dr. Bhimrao Ambedkar (B) Dr. Rajendra Prasad  
(C) Kanaiyalal Munshi (D) Jawaharlal Nehru
68. Who chairs the joint sitting of both the house of the parliament?  
(A) Chairman of Lok Sabha(Speaker) (B) Chairman of Rajyasabha  
(C) Vice-President (D) Prime Minister
69. Who appoints the Chief Justice of the Supreme Court?  
(A) Vice President (B) President (C) Prime Minister (D) Governor
70. What is India's rank in terms of area in the world?  
(A) Seventh (B) Fifth (C) Third (D) Second
71. Which type of soil is mostly found in Gujarat?  
(A) Red Soil (B) Laterite Soil (C) Black Soil (D) Mountain Soil
72. How Many kilometers' distance is there between two successive latitudes?  
(A) 111 km (B) 120 km (C) 130 km (D) 100 km
73. Where are Asiatic Lions found?  
(A) Gir(Gujarat) (B) Kanha(Madhya Pradesh)  
(C) Velavadar(Gujarat) (D) kaziranga(Assam)
74. What is the well-known dance of Tamil Nadu?  
(A) Lavni Dance (B) Kuchipudi (C) Bhangda (D) Bharat Natyam

75. From where does the monsoon begin in India?  
(A) Mumbai (B) Karnataka (C) Kerala (D) Andhra Pradesh
76. Where is the Kartik Poornima Fair held?  
(A) Modhera (B) Somnath (C) Girnar (D) Bahucharaji
77. Which Gujarati poet wrote colourful and emotional Garbis of Lord Krishna's love?  
(A) Narsinh Mehta (B) Narmad (C) Premanand (D) Dayaram
78. Which ancient book of India has mentioned the value of  $\pi$  (Pie)?  
(A) Aryabhattyam (B) Aryasiddhanta (C) Algebra (D) Lilawati Ganit
79. Between Which two rivers is Lothal situated?  
(A) Narmada and Tapi (B) Shetrunji and Bhadar  
(C) Bhogavo and Sabarmati (D) Aji and Nari
80. How many lions are there in the pillar of Sarnath?  
(A) Two (B) Three (C) Five (D) Four
81. Where is the famous ancient sun temple of Gujarat situated?  
(A) Siddhpur (B) Modhera (C) Vadnagar (D) Patan
82. Which is the most ancient book of Indian literature?  
(A) Smveda (B) Yajurveda (C) Rigveda (D) Atharvaveda
83. The ruler of which dynasty patronized Vallabhipith?  
(A) Maitrak Dynasty (B) Maurya Dynasty  
(C) Shrung Dynasty (D) Gupta Dynasty
84. Who is known as the 'Father of Mathematics' of India?  
(A) Acharya Nagarjuna (B) Maharshi Charak  
(C) Aryabhatt (D) Maharshi Patanjali
85. Which sculpture of Elephanta is considered as one of the best sculptures which sculpture of elephanta is considered as one of the best sculptures in the world?  
(A) Smiling Lord Vishnu (B) Trimurti(Brahma,Vishnu and Mahesh)  
(C) Goddess Durga slaying Mahisura (D) Kailash Temple



86. Who built the step-well of Patan?  
(A) Queen Udaymati (B) Mayanalladevi  
(C) Siddharaj Jaysingh (D) Bhimdev-1
87. Which department is responsible to look after the preservation of national monuments?  
(A) Revenue Department (B) Police Department  
(C) Public Works Department (PWD) (D) Department of Archaeology
88. About how much area is covered by black soil out of total area of India?  
(A) 43% (B) 29% (C) 15% (D) 35%
89. Which wild animal has totally extincted from Gujarat?  
(A) Tiger (B) Bear (C) Deer (D) Panther
90. In which area of Gujarat is dry farming carried out?  
(A) North Gujarat (B) South Gujarat (C) Kutch (D) Bhal Region
91. What is the name of the crop grown during summer?  
(A) Rabi Crops (B) Zaid Crops (C) Kharif Crops (D) Horticultural Crops
92. Which of the following oil seeds has the highest content of oil?  
(A) Soyabean (B) Groundnut (C) Sesam /Til (D) Castor
93. From which state of India is the maximum iron obtained?  
(A) Karnataka (B) Orissa (C) Jharkhand (D) Chhattisgarh
94. What is the average rate of population growth in India?  
(A) 2.1% (B) 2.3% (C) 2.4% (D) 1.9%
95. The price of which products are fixed by the government?  
(A) Cotton (B) Petroleum Product (C) Edible oil (D) Tea
96. Who propounded the concept of Human Development Index?  
(A) Amartya Sen (B) Boyd Orr  
(C) Arun Jaitley (D) Dr. Hansaben Mehta
97. How many percentages reservation provision has Gujarat government made for women in government job?  
(A) 30 % (B) 35% (C) 38% (D) 33%

98. Who built Red Fort of Delhi?  
(A) Babar            (B) Akbar            (C) Shahjahan            (D) Jahangir
99. The Index of which article of the constitution includes scheduled tribes?  
(A) Article-340    (B) Article-342            (C) Article-330            (D) Article-335
100. Who wrote 'Sangeet Makrand'?'  
(A) Pt. Narad            (B) Pt. Saarang Dev            (C) Pt. Ahobale            (D) Taansen