NTSE – 2019

Total Time
90 Minutes

PART - 2

Total Marks
100

P-2

SEAT NO. | | | | | | |

INSTRUCTIONS FOR STUDENTS

Please read the following instructions carefully, and then answer the questions on OMR answer sheet.

1. This paper contains PART-2 (SCHOLASTIC APTITUDE TEST) questions.

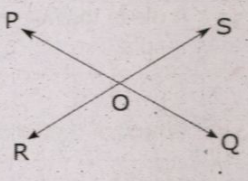
Part	Part Name	Que.No.	Time	Marks
2	**SCHOLASTIC APTITUDE TEST**	**1 To 100**	**90 Minutes**	**100**

2. This section will be 90 minutes.
3. **All questions are compulsory.**
4. The blank pages are given in this question booklet for rough work.
5. You must have to submit the OMR Sheet to the invigilator on completion the examination.

SEAL S

SPACE FOR ROUGH WORK

PART-2 : SCHOLASTIC APTITUDE TEST (SAT)

1	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
2	Number of zeros which are real numbers of the polynomial $p(x) = x^3 + 1$, is _____. (A) 1 (B) 0 (C) 3 (D) 2
3	The radius of hemisphere is _____ whose total surface area is 4158 cm^2. (A) 7 cm (B) 21 cm (C) 3.5 cm (D) 42 cm
4	Median of deta 3, 4, -5, -3, 0, 7, 1, 5, 9 is _____. (A) 3 (B) -3 (C) 0 (D) 5
5	As shown in figure If $\angle PQR : \angle ROQ = 5 : 7$ then $m\angle SOQ$ = ____  (A) 105° (B) 75° (C) 90° (D) 110°
6	In the decimal expansion of a rational number $\frac{14580}{625\times3}$, there are ____ digits (nos) after decimal. (A) 2 (B) 3 (C) 4 (D) 5
7	The HCF of 96 and 404 is 4 then their LCM is _____. (A) 16016 (B) 9616 (C) 1250 (D) 9696
8	For a quadratic polynomial $-x^2 + 2x + 8$ sum of zeros is _____. (A) -2 (B) 2 (C) -8 (D) -4
9	Zeroes of quadratic polynomial $p(x) = 2x^2 - 3x + (K - 1) = 0$ are inverse of each other then K = _____. (A) 3 (B) 2 (C) $\frac{1}{2}$ (D) 1
10	The pair of eqns $5x - 8y + 1 = 0, 3x - \frac{24}{5}y + \frac{3}{5} = 0$ has _____. (A) Unique Solution (B) Infinitely many Solutions (C) Two solutions (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) 62 (B) 66 (C) 56 (D) 52
12	HCF of smallest prime number and smallest composite number is _____. (A) 1 (B) 2 (C) 3 (D) 4

13	11^{th} term of the A.P : $-3, -\frac{1}{2}, 2 \ldots$ is _____. (A) 28 (B) 22 (C) -38 (D) $-48\frac{1}{2}$
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 ratio 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) $\frac{1}{6}$ (B) $\frac{5}{36}$ (C) $\frac{10}{36}$ (D) $\frac{11}{36}$
18	Which of the following cannot be the probability of an event ? (A) $\frac{2}{3}$ (B) 15% (C) $\frac{3}{2}$ (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	$\sum_{i=1}^{9}(xi - \overline{x}) =$ ____ (A) $8\overline{x}$ (B) $9\overline{x}$ (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) 31 u (B) 36 u (C) 47 u (D) 63 u
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 nucleaus 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) Sting ray (D) Salamander

28	A train starting from rest attains velocity of 72 km h^{-1} in 5 min, then find the acceleration. (Assuming that the acceleration is uniform) (A) $\frac{1}{15} ms^{-2}$ (B) $\frac{1}{10} ms^{-2}$ (C) $5\ ms^{-2}$ (D) $10\ ms^{-2}$
29	Which is the unit of Force ? (A) kg ms^{-1} (B) N.m (C) kg ms^{-2} (D) Pa
30	What is the mass of 6 kg object on the moon ? (A) 1 kg (B) 36 kg (C) $\frac{1}{6}$ kg (D) 6 kg
31	1 kwh = _____ J (A) 36×10^5J (B) 3.6×10^5J (C) 36×10^6J (D) 3.6×10^4J
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 increase in global temperature ? (A) Ozone layer depletion (B) Acide 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 reactions ? (i) $2kclo_3 \xrightarrow{\Delta} 2kcl + 3o_2$ (ii) $Mgo + H_2O \rightarrow Mg(OH)_2$ (iii) $4Al + 3O_2 \rightarrow 2Al_2O_3$ (iv) $Zn + FeSO_4 \rightarrow ZnSO_4 + Fe$ (A) (i) and (iii) (B) (iii) and (iv) (C) (ii) and (iv) (D) (ii) and (iii)
38	Our tooth enamel is made up of _____. (A) $Ca_3(PO_4)_2$ (B) $Ca_2(PO_4)_3$ (C) $Mg(OH)_2$ (D) $CaPO_4$
39	Which acide is present in tomato ? (A) Citric Acid (B) Acetic Acid (C) Oxalic Acid (D) Tartaric Acid
40	What is the common name of compound $CaOCl_2$? (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) $ZnCO_3 \xrightarrow{\Delta} ZnO + CO_2$ (B) $2ZnS + 3O_2 \rightarrow 2ZnO + 2SO_2$ (C) $ZnO + C \rightarrow Zn + CO$ (D) $HCl + NaOH \rightarrow Nacl + H_2O$
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) Adrenaline (B) Thyroxine (C) Growth hormone (D) Insulin
50	Find the power of a concave lens of focal length 2m ? (A) -0.5 D (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) 25 mm (C) 25 m (D) 50 mm
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) 6.25×10^{19} (B) 1.6×10^{19} (C) 6.25×10^{20} (D) 6.25×10^{18}
55	If the value of resistance is doubled, the current gets _____. (A) 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) 500 W

57	What is the melting point of tungsten used for making bulb filaments ? (A) 3350 °C (B) 3380 °C (C) 3550 °C (D) 3580 °C
58	A solar typical cell can produce about ____ watt of 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) Wanak bori (D) Gandhinagar
60	Primary consumers form ____ 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 ? (A) 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 houses of the parliament ? (A) Chairman of Loksabha (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 π (Pie) ? (A) Aryabhattiyam (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) Samveda (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 Nagarjun (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 the best sculptures in the world ? (A) Smiling Lord Vishnu (B) Trimurti (Brahma, Vishnu and Mahesh) (C) Goddess Durga slaying Mahisasura (D) Kailash Temple
86	Who built the step - well of Patan ? (A) Queen Udaymati (B) Mayanalladevi (C) Siddhraj Jaysingh (D) Bhimdev - I
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 the 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

SPACE FOR ROUGH WORK

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EAL

Leave the examination hall after handing over OMR SHEET to the block invigilator. Of any one commits such mistake; he/she will be considered ineligible for the examination.