CENTRE:

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| 1 | 7 | 1 | 1 | 2 | 0 | 1 | 3 |
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EXAM SEAT NO. :

| 2 | 3 | 6 | 1 | 4 | 0 | 0 | 0 | | | | |
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EXAM SEAT NO. (in words)

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# NATIONAL TALENT SEARCH EXAMINATION 2014 (STD. X)

**Instructions to the Candidates:**

1) PART I Mental Ability Test       Time 45 Minutes    Maximum Marks 50
PART II Scholastic Aptitude Test     Time 90 Minutes    Maximum Marks 90
PART III Language comprehensive Test   Time 45 Minutes    Maximum Marks 40

2) Write your Seat No. both in figures and in words on this Question Booklet (above) as Well as on the Answer Sheet supplied to you.

3) Each question carries one Mark.

4) All questions are compulsory.

5) You have to mark your answers on Answer sheet provided with the Question Booklet. Each question is provided with four alternatives. Answer to each question is to be indicated by **encircling** the number of the correct alternative in the Answer sheet from amongst those given against the corresponding question in the Question Booklet.

6) The answer sheet have three parts:

PART- I Mental Ability Test, PART II Scholastic Aptitude Test and PART III Language comprehensive Test. Answers to questions of MAT (PART- I) are to be indicated in PART I Portion of the Answer Sheet. Answers to questions of SAT (PART – II) are to be indicated in PART –II portion of the Answer Sheet and Answers to questions of Language comprehensive Test are to be indicated in PART –III portion of the Answer Sheet.

7) Rough work can be done any where in the question booklet.

Please Note the Centre Codes:
1. Bicholim       0001
2. Mapusa       0002
3. Margao       0003
4. Panaji       0004

MENTAL ABILITY TEST

Part : I                                    Std. X                                    Marks :50

**Directions**: In each of the following questions, a number series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

(1)     11,   13,   17,   19,   23,   25,   ?

1) 26          2) 27          3) 29          4) 37

(2)     1,    5,   13,   25,   41,   ?

1) 51          2) 57          3) 61          4) 63

(3)     6,   17,   39,   72,   ?

1) 83          2) 94          3) 116         4) 127

(4)     13,   35,   57,   79,   911,   ?

1) 50          2) 65          3) 70          4) 1113

**Directions:** In each of the following questions various terms of alphabet series are given with one or more terms missing as shown by (?). Choose the missing terms out of the given alternatives.

(5)     C,   Z,   F,   X,   I,   V,   L,   T,   O,   ?

1) O, P        2) P, Q        3) R, R        4) S, R

(6)     DEF,   HIJ,   MNO,   ?

1) STU         2) RST         3) RTV         4) SRQ

**Directions:** A word is written according to some code. Using the same code another word may be written as one of the alternatives given below the question. Find the correct alternative.

(7)     If BEAT is coded as GIDV ,   SOUP will be coded as

1) XSYR      2) XYXR      3) XSRX      4) XSXR

(8)     If POUR is coded as RSAZ, WAKE will be coded as

1) EYGT      2) TGEY      3) YEQM      4) YGET

(9)     If HAND is coded as FXRI, ROTE will be coded as

1) LPJX      2) PLXJ      3) LJPX      4) LXJP

(10)    How many rectangles are there in the figure given below ?

1) 12      2) 13      3) 15      4) 10

(11)    Which number will replace the question mark ?

1) 30      2) 25      3) 20      4) 24

(12)    Which number will replace the question mark ?

1) 8      2) 32      3) 4      4) 16

(13)    Which one will replace the question mark?

1) 11      2) 19      3) 15      4) 22

**Directions:** In each of the following question, the numbers given in each row follow some rule. Select the number which is missing from the blank (?) as per the rule from amongst the four alternatives given below.

(14)    231    ( 21)   357

204    (32)   396

216    ( ? )   324

1) 43      2) 10      3) 18      4) 12

| (15) | 12 | (13) | 14 |
| | 11 | (20) | 29 |
| | 28 | ( ? ) | 22 |

1) 27  2) 25  3) 23  4) 21

| (16) | 105 | (50) | 45 |
| | 245 | (95) | 40 |
| | 380 | ( ? ) | 25 |

1) 140  2) 85  3) 145  4) 135

| (17) | 475 | (76 ) | 323 |
| | 857 | (133) | 591 |
| | 642 | ( ? ) | 274 |

1) 184  2) 148  3) 178  4) 192

**Directions:** In each of the following questions three circles are given. There are four numbers around each of the circles. The numbers inside the circle bears some relation to the numbers outside. On the basis of this relationship, find out the number in the place of question mark among the four alternatives given at the end of each question.

1) 6  2) 7  3) 8  4) 9

1) 6  2) 7  3) 8  4) 9

**Directions:** Following questions are based on the numbered cube dice. Study the given faces of a cube dice in each question and then choose one of the alternative which answers the question correctly.

(20) Which number is on the face opposite to 2 ?

1) 1  2) 3  3) 4  4) 6

(21)     Which number is on the face opposite to 5 ?

   1) 1          2) 2          3) 4          4) 5


(22)     Today is Wednesday, what will be the day after 94 days?

   1) Monday          2) Tuesday          3) Wednesday          4) Sunday


(23)     The year next to 1990 will have the same calendar as that of the year 1990.

   1) 1995          2) 1997          3) 1996          4) 1992

**Directions:** (Question 24 to 26): Each of the following questions consists of a pair of numbers that have a certain relationship to each other, followed by four other pairs of numbers given as alternatives. Select the pair in which the numbers are similarly related as in the given pair.

(24)     5 : 35
         1) 7 : 77     2) 9 : 45     3) 11 : 55     4) 3 : 24

(25)     8 : 256
         1) 7 : 343     2) 9 : 243     3) 10 : 500     4) 5 : 75

(26)     7 : 24
         1) 30 : 100     2) 23 : 72     3) 19 : 58     4) 11 : 43

**Directions:** (Question 27 to 29) In each of the following questions, choose one number which is similar to the numbers in the given set.

(27)     Given set :  363,    489,    579
         1) 562          2) 471          3) 382          4) 281


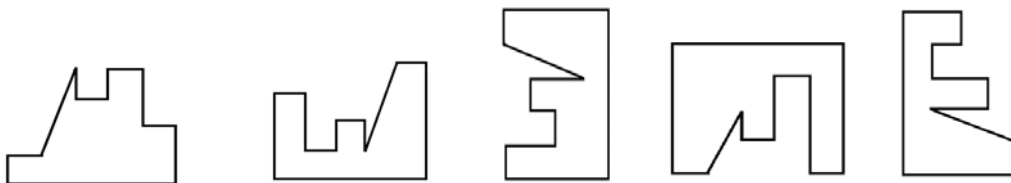(28)     Given set :  282,    354,    363
         1) 453          2) 417          3) 336          4) 255


(29)     Given set : 992,    733,    845,    632
         1) 114          2) 326          3) 425          4) 947

**Directions**: (Question 30 to 34) Observe the diagram carefully and then answer the following
questions. Here rectangle represents males, Triangle represents PhD,
Circle represents Urban and Square represents civil servants.

(30)     How many urban male civil servants are there?

  1) 8          2) 26          3) 11          4) 39


(31)     How many female PhD are there?

  1) 39          2) 11          3) 15          4) 26


(32)     How many urban male PhD civil servants are there?

  1) 10          2) 8          3) 13          4) None of these


(33)     How many urban female civil servants are there?

  1) 3          2) 2          3) 7          4) 15


(34)     How many urban male PhD are there?

  1) 15          2) 13          3) 39          4) None of these


**Directions**: (Question 35 to 37) Select a figure from the given four alternatives which fits
exactly into Figure-X to form a complete square.

(35)



  (X)                    (1)                    (2)                    (3)                    (4)

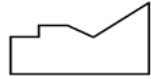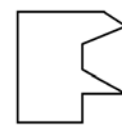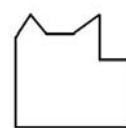    (1)  1              (2)  2              (3) 3              (4)  4

(36)



(X)          (1)          (2)          (3)          (4)

(1) 1      (2) 2      (3) 3      (4) 4

(37)
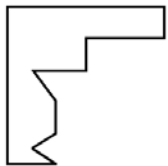


(X)          (1)          (2)          (3)          (4)

(1) 1      (2) 2      (3) 3      (4) 4

**Directions:** In each of the following questions four alternatives are given. You have to select alternative which exactly matches with   mirror image of the word in each question.
Mirror is placed to the right of a given word.

(38) TERMINATE

1)   TERMINATE          2)   TERMINATE
3)   TERMINATE          4)   ENTANIMRET

(39) BUZZER

1)   BUZZER          2)   REZZUB
3)   REZZUB          4)   BUZZER

(40) INFORMATIONS

   1) INFORMATIONS    2) INFORMATIONS
   3) INFORMATIONS    4) INFORMATIONS


(41) REASONING

   1) REASONING    2) REASONING
   3) GNINOSAER    4) REASONING


**Direction:** In the following questions +, -, =, ×, and ÷ are replaced by asterisks (*). Identify the correct order of signs given as five alternatives to replace the asterisks (*) so that the expression becomes mathematically meaningful.

(42)     (69 * 23) * (76 * 19 * 6) = 30

    1) ÷, ×, ÷, +     2) ÷, +, ÷, -     3) ÷, ×, -, ×     4) +, ÷, +, +


(43)     (13 * 9) * ( 14 * 11) * 13 = 3

    1) +, ×, +, ÷     2) -, ×, -, ÷     3) ×, ÷, -, ÷     4) ×, ×, -, ÷


(44)     ( 9 * 6 * 36 * 9) * 10 = 5

    1) +, ÷, +, -     2) ÷, +, ÷, +     3) -, +, -, ×     4) ×, -, ÷, ÷


(45)     69 * 23 * 111 * 37 * 1 = 10

    1) ÷, +, ÷, -     2) ×, -, ×, -     3) ÷, ×, ÷, +     4) ÷, ×, ÷, -


(46)     (8 * 7) * 5 * (78 * 6) = 62

    1) -, ×, ×, ÷     2) +, ×, -, ÷     3) +, ÷, +, ÷     4) ×, -, -, ÷


**Directions:** Following questions are based on number series. In each question a series of numbers is given in which one term is wrong. This term is given in one of the four alternatives. Identify that alternative.

(47)    20,    26,    34,    44,    56,    72,    86

1) 26          2) 44          3) 86          4) 72


(48)    125,    150,    175,    200,    220,    250,    275

1)175          2) 220          3) 150          4) 250


(49)    25,    36,    64,    80,    49,    100,    144

1) 25          2) 80          3) 49          4) 100


(50)    17,    29,    39,    47,    53,    58,    59,    62

1) 29          2) 39          3) 47          4) 58


**N.T.S. Examination, 2014 for Std. X**

Q.1. The following three graphs describe motion of ball in one dimension.

v v v

t t t

(a) (b) (c)

1. The correct representation of three graphs is as in ----------
1)(a)ball is thrown upward   (b)ball is thrown downward   (c)ball is released from rest
2)(a) ball is thrown downward   (b) ball is thrown upward  (c)ball is released from rest
3)(a) ball is released from rest (b)ball is thrown downward (c) ball is thrown upward
4)(a)ball is thrown upward    (b) ball is released from rest (c) ball is thrown downward

Q.2. A motorist drives 120 km at 40 km/hr and 120 km at 60 km/hr. What is his average speed for the trip ?
1) 96 km/hr                                    2) 48 km/hr
3) 50 km/hr                                    4) 60km/hr

Q.3. During day time on the moon an astronaut finds his room totally dark, because there is no ----------

1) reflection of light                         2) scattering of light
3) diffusion of light                          4) refraction of light

Q.4. Which one of the following is not unit of pressure ?

1) $N/m^2$                                     2) amu
3) Pascal                                      4) psi

Q.5. The passive device that stores neither electric energy nor magnetic energy is ------

1) Capacitor                                    2) Inductor
3) Battery                                       4) Resistor

Q.6. You are having two cells each of 12V and 1A each. If 24 W power is required to be delivered to the load, then it has to be connected as -------------

               1                    2                    3                    4

Q.7. The image distance and nature of the image when an object is placed 5 cm from a converging lens of focal length 10 cm is -----------
1) 10 cm, real image                            2) 10 cm, virtual image
3) -10 cm, virtual image                        4) -10 cm, real image

Q.8. Which one of the following is a correct statement ?

1) The height of mirror should be as much as height of the person to see his/her complete image and does depend how far person stands from the mirror.
2) The height of mirror should be as much as 1/3 of height of the person to see his/her complete image and does depend how far person stands from the mirror.
3) The height of mirror should be as much as 1/3 of height of the person to see his/her complete image and does not depend how far person stands from the mirror.
4) The height of mirror should be as much as ½ of height of the person to see his/her complete image and does not depend how far person stands from the mirror.

Q.9. Sound velocity is 340 m/s. Humans can hear a range of frequencies from 20 to 20,000 Hz. The range of wavelengths corresponding to this is -----------
1) 0.017 m to 17 m                              2) 1.7 m to 170 m
3) 17 m to 0.017 m                              4) 68m to 0.068 m

Q.10. If two particles have the same kinetic energy, what can be said about their momenta ?

1) $p_1 > p_2$
2) $p_1 < p_2$
3) $p_1 = p_2$
4) Not enough information

Q.11. The power of the lens of a person is – 1.25 Diopters. The defect of vision that this person is suffering from is -----------

1) Myopia
2) Presbyopia
3) Hypermetropia
4) Astigmatism

Q.12. The unit of magnetic field intensity is -----------

1) Weber
2) Ampere
3) Tesla
4) Oersted

Q.13. 1 g $CH_4$ and 4 g of compound X have equal number of moles. Thus, molar mass of X is

1) 16 g mol $^{-1}$
2) 32 g mol $^{-1}$
3) 4 g mol $^{-1}$
4) 64 g mol $^{-1}$

Q.14. The oxygen obtained from 72 kg of water is

1) 72 kg
2) 46 kg
3) 64 kg
4) 50 kg

Q.15. The atomic number of two elements A and B are 20 and 17 respectively. Which one of the following statement is correct in respect of these elements ?
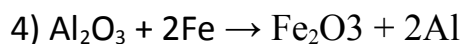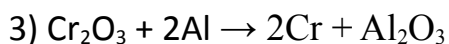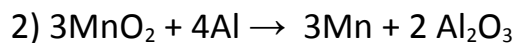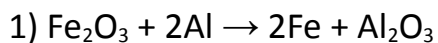1) A will be a metal and B will be a non-metal
2) Both A and B will be non-metals
3) Both A and B will be metals
4) A will be a non-metal and B will be a metal

Q.16. While laying down of a railway track the chemical reaction that takes place in
joining ends of rails is

1) $Fe_2O_3 + 2Al \rightarrow 2Fe + Al_2O_3$      2) $3MnO_2 + 4Al \rightarrow 3Mn + 2\ Al_2O_3$

3) $Cr_2O_3 + 2Al \rightarrow 2Cr + Al_2O_3$      4) $Al_2O_3 + 2Fe \rightarrow Fe_2O3 + 2Al$

Q.17. What is formed when an element X of atomic number 19 reacts with an
element Y of atomic number 17 ?

1) A covalent compound of formula XY

2) An ionic compound of formula $XY_2$

3) An ionic compound of formula XY

4) A covalent compound of formula $XY_2$

Q.18. Which one of the following fuels, on burning, leads to no air pollution ?

1) Fossil fuels      2) Natural gas

3) Animal dung      4) Hydrogen

Q.19. Which of the following is an isomer of dimethylether

1) Acetic acid      2) Formic acid

3) Acetaldehyde      4) Ethanol

Q.20. Which one of the following properties is required in the case of an ideal fuel?

1) High ignition temperature

2) High calorific value

3) High rate of combustion

4) High content of non-volatile matter

Q.21. The preparation of ethene from alcohol can be described as

1) addition      2) dehydration

3) oxidation      4) hydrogenation

Q.22. Which of the following is a natural polymer

1) Polythene      2) Polystyrene

3) Polypropylene      4) Poly isoprene

Q.23. The total number of atomic orbitals associated with the principal quantum

number, n=3  is

1) 3                                                    2) 6

3) 9                                                    4) 18

Q.24. The element essential for the synthesis of proteins is ---

1) Carbon                                               2) Hydrogen

3) Nitrogen                                             4) Oxygen

Q.25. The possibility of evolutionary changes is highest in species that reproduce by --

1) Budding                                              2) Fission

3) Asexual means                                        4) Sexual means

Q.26. Autotrophic mode of nutrition requires -------

1) $CO_2$ & $H_2O$                                      2) Sunlight

3) Chlorophyll                                          4) All of the above

Q.27. Translocation in plants is associated with --------

1) Xylem                                                2) Phloem

3) Cuticle                                              4) Stomata

Q.28. Which of the following constitutes a food chain ?

1) Grass, Wheat, Lotus                                  2) Grass , Fish , Goat

3) Grass , Goat , Human                                 4) Grass , Grasshopper, Water-lily

Q.29. If young plants are exposed to unidirectional light, the stem tip grows towards the source of light. This is an example of ---------

1) Geotropism                                           2) Chemotropism

3)  Hydrotropism                                        4) Phototropism

Q.30. 'W'-White  is dominant and 'w'- Black is recessive trait of fur colour in dogs. If 50%   dogs produced are white, then the parental cross is most likely--------

1) Ww  X w w                                            2) Ww X Ww

3) WW X Ww                                              4) WW X ww

Q.31. The organisms whose number is minimum in a food chain are ----

1) Producers                                          2) Tertiary consumers

3) Secondary consumers                   4) Primary consumers

Q.32. The longest part of Human alimentary canal is ---

1) Small intestine                              2) Large intestine

3) Stomach                                    4) Oesophagus

Q.33. Plants like Cashew produce gums which are ---

1) products of photosynthesis            2) products of translocation

3) secondary metabolites                4) products of transpiration

Q.34. Which of  the following is growth inhibitor in plants   ?

1) Auxin                                    2) Abscisic acid

3) Gibberellin                              4) Cytokinin

Q.35. Sudden activities cause cramps in our muscles. This is due to the formation of ----

1) Hydrochloric acid                    2) Pyruvate

3) Lactic acid                             4) Sugars

Q.36.  "Bread for breadless, land for landless and peace for all" was a slogan given

by ------------

1) Stalin                                   2) Kerensky

3) Destoyersky                          4) Lenin

Q.37.  The East India Company was founded  in London in the year ----------
1) 1657                                    2) 1757
3) 1600                                    4) 1500

Q.38.  The British rule established in India, after the ------------

1) Battle of Plassey                    2)Battle of Buxar

3) First Battle of Panipat            4) Second Battle of Panipat

Q.39.  The term 'Cold War' was first used by an American writer ----------
1) John Kennedy                        2) Watten Lipmen
3) Winston Churchill                  4) George Bush

Q.40.  The first Continental Congress was convened on 5th September,1774 at ----

1) Paris                                      2) Boston

3) New York                                   4) Philadelphia

Q.41.  The State which came to be known as the Weimar Republic in 1918 was---

1) Germany                                    2) Italy

3) Spain                                      4) Turkey

Q.42.  The first Secretary General of U.N. was -----------

1) Kofi Annan                                 2) Kurt Waldheim

3) Dag  Hammdrskjold                          4) Trygve Lie

Q.43.  Slavery was finally abolished in French Colonies in ------

1) 1789                                       2) 1848

3) 1804                                       4) 1794

Q.44.  The Satyagrahis raised the "Parallel government" in Satara district and in some places in Bihar and ----------

1) Rajasthan                                  2) Madhya Pradesh

3) Karnataka                                  4) Uttar Pradesh

Q.45. The World Bank and International Monetary Fund (IMF) were created in -----

1) 1946                                       2) 1945

3) 1947                                       4) 1949

Q.46. Local supply of coal is not available to which one of the following Steel Manufacturing unit ?

1) HSL Durgapur                               2) HSL Bhilai

3) TISCO Jamshedpur                           4) VSL Bhadravati

Q.47. Which one of the following describes a system of agriculture wherein a single crop is grown on a large area ?

1) Intensive agriculture                      2) Plantation farming

3) Horticulture                               4) Shifting agriculture

Q.48. To which of the following does the term 'population distribution' refer to ?

1) The number of people who die in relation to the number of people born in a specified area.

2) The manner in which the population in a specified area changes over a period of time.

3) The manner in which  people are spread across in a given area.

4) None of the above.

Q.49.  Which of the following statements is not an argument in favour of Multi-purpose river Projects ?

1) Multi-purpose Projects help to control floods by regulating water flow.

2) Multi-purpose Projects generate electricity for our industries and our homes.

3) Multi-purpose Projects lead to large scale displacement and loss of  livelihood.

4) Multi-purpose Projects bring water to those areas which suffer from water scarcity.

Q.50. Which of the following places in India provide ideal conditions for utilizing tidal energy ?

1) Mouth of the Mahanadi                      2) Mouth of the Krishna

3) Mumbai off-shore                                4) Gulf of Kuchchh

Q.51. Assertion (A): Coal is a fossil fuel.

Reason  (R) :It is formed due to compression of organic material over millions of years.

Select the correct option from the given alternatives:

1) Both (A) and (R) are true ,and (R) explains (A)

2) Both (A) and (R) are true, but (R) does not explain (A)

3) (A) is true and (R) is false.

4) (A) is false and (R)is true

Q.52.  Assertion(A): The Western Coast of India receives rainfall from the South-west Monsoon winds.

Reason(R) :The South-west Monsoon winds  are blocked by the Aravali range.

Select the correct option from the given alternatives:

1) Both (A) and (R) are true ,and (R) explains (A)
2) Both (A) and (R) are true ,but (R) does not explain (A)
3) (A) is true and (R) is false
4) (A) is false and (R) is true

Q.53 Which of the following is not a valid reason for the depletion of flora and fauna ?

1) Grazing and fuel wood collection      2) Rapid industrialisation and urbanization

3) Large scale developmental projects  4) Agricultural expansion

Q.54.  Which of the following factors does not influence land use pattern in an area ?

1) Population                                          2) Soil cover
3) Slope of the land                              4) Drainage of the land

Q.55.  Which of the following types of soils is useful for growing tea and coffee in the
hilly areas of Karnataka, Kerala and Tamilnadu ?
1)  Red                                                    2) Alluvial
3) Regur                                                  4) Laterite

Q.56. The Attorney General in India is appointed by the --------

1) Prime Minister                                  2) President
3) Home Minister                                  4) Defence Minister

Q.57. The first citizen of the big city is the ------------

1) Councillor                                          2) Mayor
3) Municipal Commissioner                  4) Sarpanch

Q.58. By 1900 every adult had voting right in ---------

1) France                              2) Great Britain
3) U.S.A.                              4) New Zealand

Q.59. Zimbabwe attained independence from White minority rule in --------

1) 1945                                2) 1982
3) 1980                                4) 1981

Q.60. The British Colonies in North America declared themselves independent in -----

1) 1787                                2) 1776
3) 1789                                4) 1775

Q.61. The member of the Rajya Sabha enjoys a term of ---------

1) 6 years                             2) 5 years
3) 7 years                             4) 3 years

Q.62. The Leader of the Lok Sabha is the ------------

1) Prime Minister                      2) Home Minister
3) Speaker                             4) President

Q.63.  Apartheid was the name of a system of racial discrimination unique to -----

1) India                               2) West Indies

3)  Zimbabwe                           4) South Africa

Q.64. The Ex-Officio chairman of the Rajya Sabha is the ------------

1) Vice President                      2) Deputy chairman

3) Prime Minister                      4) President

Q.65. The Panchayati  Raj Act was passed in 1992 by ---------

1) 74<sup>th</sup> Amendment          2) 73<sup>rd</sup> Amendment

3) 44<sup>th</sup> Amendment          4) 42<sup>nd</sup> Amendment

Q.66. The agency estimating the national income of India is _____

1) Reserve Bank Of India          2) Planning Commission

3) Ministry of Finance          4) Central Statistical Organization

Q.67. Indian Consumer Protection Act was passed in the year_____

1) 1966          2) 1976

2) 1986          4) 1996

Q.68. What does the 'Mixed economy ' in India mean?

1) Companies of foreign countries can play an equal role in development of India's economy.

2) Special privileges are given to foreign companies by the government for investment in India.

3) Private companies of India are allowed to invest in public sector.

4) Private sectors play a complementary role along with the public sector.

Q.69. The common method used to measure poverty is _____.

1) Income          2) Saving

3) Investment          4) Profit

Q.70 . Which scheme was launched by the Govt. of India to encourage self-employment  amongst unemployed youth?

1) President Rozgar Yozana      2) Prime Minister  Rozgar Yozana

3) Government Rozgar Yozana      4) Chief Minister Rozgar Yozana

Q.71 . $\dfrac{(243)^{0.825}}{(243)^{0.225}}$ = ?

     1) 27                    2) 9

     3)                       4) 3

Q.72 . Total percentage by which   of 70 less than   of 122 is  ----------

     1) 42%                   2) 30%

     3) 24%                   4) 36%

Q.73 . Four watches are ringing alarm bells in the interval of 6,12,15 and 18 seconds. If they start at same time, how many times they will ring together in 4 hours ?

     1) 80 times              2) 81 times

     3) 20 times              4) 21 times

Q.74 .  A man buys mangoes paying one variety Rs.320 to 240 and another variety of Rs. 640 to 400. He mixes and sells them at 16 mangoes for Rs. 30. Find the percentage of profit.

     1) 15%                   2) 25%

     3) 35%                   4) 45%

Q.75.  The average of 30 observations is 40. Later it was found that one observation was wrongly written as 40 instead of 70. Therefore the correct mean is ----------

     1) 40                    2) 14

     3) 41                    4)  none of these

Q.76. The difference between simple interest and compound interest for a certain sum for a period of 2 years at 10% p.a. is Rs. 210. Therefore, the sum is ----------

     1)  Rs. 21,000            2) Rs.20,000

3) Rs. 12,000                                               4) Rs. 10,200

Q.77. If a =  and  b =     , then $125 a^3 - 8b^3$ = -----------

1) 2197                                                    2) 9503
3) 13897                                                   4) 21897

Q.78. The sum of seven consecutive natural numbers is 1617. How many of
these numbers are not prime ?

1) 4                                                       2) 2
3) 5                                                       4) 7

Q.79. (x-k) is the GCD of $x^2 + x - 12$ and $2x^2 - kx - 9$, then the value of k = ------

1) 4                                                       2) -4
3) 3                                                       4) -3

Q.80. If x =    and y = 1, the value of        is ------------

1)                                                         2)

3)                                                         4)

Q.81 . The square root of $(x^2+4x+4)(x^2+6x+9)$ is -----

1) $x^2+5x-6$                                              2) $x^2-5x+6$
3) $x^2+6x+5$                                              4) $x^2+5x+6$

Q.82. If x=9 and  y=   , then the value of $(x^2-y^2)^{-1/3}$

1)                                                         2) 1
3)                                                         4)

Q.83. The ratio of the ages of A and B, ten years before was 3:5. The ratio of their
present ages is 2:3, then their ages are respectively --------

1) 30,50                                                   2) 20,30
3) 40,60                                                   4) 16,24

Q.84. The value of $x^{a+b}$ x $x^{b+c}$ x $x^{c+a}$ = ?

1) 1

2) 0

3) $x^{abc}$

4) none of these

Q.85. If radius of a sphere is doubled, how many times its volume will be affected ?
1) 2 times

2) 4 times
3) 6 times

4) 8 times

Q.86. If diagonals of a quadrilateral are perpendicular to each other then it is --------
1) square only

2) rhombus only
3) square and rhombus only

4) quadrilateral other than square
    and rhombus is also possible

Q.87. If O is centre of circle and OAB = 25 and OCB = 40. Then AOC = ----------

1) 130

2) 65
3) 175

4) none of these

Q.88. If P is a point on side CD of a square ABCD such that PC =5cm. If area of the
    triangle ADP is 42cm$^2$,then the length of side of square is --------
1) 10cm

2) 24cm
3) 12cm

4) 16cm

Q.89. The area of the shaded region in the given figure is ------------

1) 996cm$^2$

2) 946cm$^2$
3) 935.7cm$^2$

4) none of these

Q.90. A hemi-spherical bowl of internal diameter 36cm contains a liquid. This liquid
    has to be filled in cylindrical bottles of radius 3cm and height 6cm. How many
    such bottles are required ?

1) 72                                                 2) 36

2) 54                                                 4) none of these

## ENGLISH

Q. 1-5 Read the following passage and answer the question given after it:

We in India have our own special problems. No one can deny that some of them are of a serious nature and must be attacked with vigour and determination. Our national objectives have been clearly defined. We aim at providing every citizen with the basic necessities and complete freedom to lead a life of his or her own choice. We aim to create a democratic society, strong and free, in which every citizen, irrespective of his religious beliefs, will occupy an equal and honoured place, and be given full and equal opportunities for growth and service. We aim at ending untouchability and

doing away with the present inequalities of status and wealth. We are opposed to the concentration of wealth in a few hands.

1. This passage could most probably be a part of
   1) the Indian Constitution.              2) a book on political Science.
   3) a speech.                             4) a personal letter.

2. According to the author, our national objective is to

   1) create equal opportunities for all.
   2) end economic exploitation in the country.
   3) promote individual freedom and prosperity.
   4) promote democracy, socialism and secularism.

3. Pick out the wrong statement

   1) The problems of Indians are like anyone else's.

   2)      Some of our problems can be handled only by strong people.

   3) Our goal is to build an India free from economic exploitation.

   4) There is no uncertainty about our national objectives.

4. The italicized word *vigour* means
   1) force                                2) Enthusiasm
   3) Physical wealth                      4) forcefulness of language

5. The phrase 'religious beliefs', in the context, means

1) belief in the religion                  2) one's religion
3) belief in all religions                 4) belief in one's own religion

Q. 6-10 Read the following passage and answer the questions given after it:

From the very beginning, man has attempted what has seemed impossible. Man is different from the rest of the creation in this respect. He has an eternal thirst for

adventure. This has led to countless new discoveries and inventions. Human curiosity is limitless. It is responsible for space flights and moon landings.

The desire to know what lies beyond the visible world takes many forms. The Everest hero Tenzing and the hero of the 'Seven Seas', Mihir Sen, were inspired by the same restless spirit. Astronauts Armstrong, Collins and Aldrin, who were the first humans to set foot on the soil of the moon, have proved beyond doubt that man shall not rest until he has conquered the entire universe.

Now the question arises: Is it enough to know and master nature? To answer it, one should first answer a more basic question: which is more important – knowing and understanding the world around you or knowing and understanding yourself? Everyone will agree that in the absence of self – knowledge, even the most advanced knowledge of the universe will not only be useless but also dangerous.

6. " Man is different from the rest of the creation in this respect"

   Here man stands for

   1) A particular man                          2) Tenzing and Mihir Sen
   3) Armstrong, Collins and Aldrin        4) all mankind


7. "He has an eternal thirst for adventure"

   Here *eternal* means

   1) great                                    2) old
   3) without beginning or end          4) that which cannot be satisfied


8. "*It* is responsible for space flights and moon landings"

    Here *it* stands for

   1) Man's attempting the impossible
   2) the difference between man and the rest of the creation
   3) human curiosity

4) man's eternal thirst for adventure

9."To answer it one should first answer a more *basic* question"
   Here *basic* means

   1) having to do with the foundation upon which other things are built up
   2) urgent
   3) important
   4) difficult

10."Which is more important – knowing and understanding the world around *you*

   or knowing and understanding yourself ?"
   Here *you* stands for
       1) one particular person                    2) an imaginary reader
   3) only those who read this passage          4) one, anyone

Q.11-15. Read the following passage and answer the questions given after it:

If people who commit crimes are not punished, they will go on committing crimes. We have, therefore, a police force for investigating crimes and apprehending criminals. In the same way, if there are disputes among persons over property, contracts, rights and other matters, they have to be decided in a court of law. They are called civil cases and are decided by the law courts according to the civil law. Cases of crime are dealt with according to the criminal law. It is not easy to find out whether a person accused of committing a crime is really guilty, so in every such case evidence has to be produced to show whether he did or did not commit the crime. In civil cases also, each party to a case has to produce evidence to prove its claim. The process of administering justice is quite complicated, but if justice is not done, there is great disorder.

The administration of justice was much more difficult in Akbar's time. There were different systems of law and different customs that were believed to be as binding as laws, and all the people wanted their disputes to be settled according to their own particular laws and customs. In the villages, people had to be left to settle their own

disputes in the village panchayats. This did not always mean that the law was followed or justice done. Even now, we see that there are two or more parties in every village, and matters are considered more on a party basis than according to what is just and right. Now, villagers have the opportunity to take their disputes to the law courts for settlement, but that is a tedious and costly process. In Akbar's time also, it was possible for a person who felt that injustice had been done to him, to appeal to a government officer.

11. A police force is necessary because it

    1) settles disputes among persons
  2) decides civil cases
  3) inquires into crimes and arrests criminals
  4) punishes those who commit crimes.

12. "We have, therefore, a police force for investigating crimes and *apprehending* criminals."
The word *apprehending* here means

1) understanding                                 2) arresting
3) recognizing                                   4) punishing

13. "The process of administering justice is quite complicated, but if justice is not done, there is great disorder." This sentence implies that
1) disorder results in the process of administering justice.
2) disorder is created because justice is administered in a complicated way.
3) absence of justice leads to disorder.
4) the cause of disorder is always absence of justice.

14. "There were different systems of law and different customs that were believed to be as *binding* as laws, and all the people wanted their disputes to be settled according to their own particular laws and customs."
The word *binding* here means
    1) Imposing an obligation                 2) useful for the people

3) difficult to understand                  4) worthy of respect

15. "……but that is a tedious and costly process."
    The word 'tedious' means
  1)    tiresome and long                   2) swift and interesting
    3) boring and uninteresting              4) costly  but profitable

Q.16-17 The following sentences come from a paragraph. The first and the last sentences are given. Choose the order in which the other four sentences (PQRS) should appear to complete the paragraph.

16. S1. Democracy has another merit.
    S2._____

    S3._____

    S4. _____

    S5. _____

    S6. I believe in the Private Member who makes himself a nuisance.

    P. That is why I believe in the Press, despite all its lies and vulgarity and why I believe in parliament.
    Q. It allows criticism, and if there is no public criticism there are bound to be hushed up scandals.
    R. I believe in it because it is a talking shop
    S. Parliament is often sneered at because it is a Talking Shop.
    Choose from the options below:
    1) QPSR                   2) RSPQ
    3) SPQR                   4) QPRS

17. S1. Philip had not been to this part of the library before.

    S2. _____

    S3. _____

    S4. _____

S5. _____

S6. Twenty pairs of eyes looked up at him simultaneously, annoyed by this unaccustomed disturbance

P. The shelves were filled with thick volumes: dictionaries, atlases and other works    of references.

Q. The books in this section were on a high shelf out of his reach, so he had to fetch  a small ladder in order to get one down.

R. He found nothing that was likely to interest him, until he came to a small section on photography.

S. Unfortunately, the book he had chosen slipped from his grasp and fell to the floor   with a loud crash.

Choose from the options below:

1) RSQP                  2) QPRS                  3) SRQP                  4) PQRS

Q.18-22. Choose the word which best fills the blank from the four options given:

18. Sharad is so _____ that, in such a big crowd, you may have hardly had time to notice him.
   1) self-effacing                              2) selfish
   3) self-critical                              4) self-opinionated

19. Though she was most eager to reveal the secret, she exercised some _____

   1) check                                      2) restraint
   3) moderation                                 4) tolerance

20. To be _____ I think you did not do the right thing.

   1) clever                                      2) free

3) frank                                          4) straight

21. Her hopes of settling in America were _____ when she lost her jewellery box.

   1) dashed                                    2) defeated
   3) frustrated                                 4) beaten

22. The old gentleman _____ to b e a very good friend of my grandfather.

   1) turned out                                 2) turned over
   3) turned up                                  4) turned in

Q.23-27. Select the most appropriate meanings of the given phrases/idioms:

23. *Back out*

   1) withdraw                                   2) support
   3) oppose                                     4) come back

24. Carry out

   1) carry                                      2) practice
   3) neglect                                    4) go out

25. Find out

   1) disclose                                   2) disrupt
   3) discard                                    4) discover

26. Storm in a tea cup

   1) fuss                                       2) talk about a great matter
   3) fuss over a trivial matter                 4) burst with anger

27. Flying visit

   1) visit by plane                            2) short visit
   3) quick visit                               4) lengthy visit

Q.28-35. There are some numbered blanks in the following passage. Fill in the blanks

by selecting the most appropriate word for each blank from the given options:

Newspapers __(28)__ the cheapest medium of information today. Also they are __(29)__ available to everybody. Newspapers are __(30)__ important means of educating people. Those who read newspapers become well-informed about current affairs. The Editorial page __(31)___ important questions and problems of national and international interest. Letters to the Editor give us the views __(32)__ the readers on various subjects. The Sports Page __(33)__ interesting information about games and sports. Newspapers also contain advertisements. These advertisements are very useful for businessmen and those who are in __(34)__ of jobs. The matrimonial column helps people in __(35)___ the right kind of husband or wife. Thus, newspapers are useful for almost everyone.

28. 1) is              2) has              3) were              4) are

29. 1) ease            2) seldom           3) rarely            4) easily

30. 1) an              2) a                3) the               4) to

31. 1) brings          2) discusses        3) tells             4) notices

32. 1) for             2) by               3) of                4) from

33.  1) gives          2) giving           3) given             4) gave

34.  1) look           2) seek             3) search            4) desire

35.  1) fixing         2) finding          3) find              4) search

Q.36-37. Select the most appropriate option to fill in the blanks from the given alternatives:

36. The old man was very _____ to the boy.

    1) kind           2) kindness           3) kindly           4) kindliness

37. The worker gratefully _____ the wages.

| 1) excepted | 2) expected | 3) except | 4) accepted |

Q.38-40 Select the word which means the opposite of the given word:

38. Considerable

| 1) inadequate | 2) inattentive | 3) usual | 4) common |

39. Adamant

| 1) satisfied | 2) comfortable | 3) yielding | 4) luxurious |

40. Diligent

| 1) negligent | 2) ideal | 3) gentle | 4) idle |

# ANSWER KEY NTSE-2014 (MAT)

*NTSE –2014  held on 17.11.2013*
*Part : I  Mental  Ability  Test*

| Q.No | Option | Q.No | Option | Q.No | Option | Q.No | Option | Q.No | Option |
|------|--------|------|--------|------|--------|------|--------|------|--------|
| 1 | 3 | 11 | 2 | 21 | 2 | 31 | 3 | 41 | 2 |
| 2 | 3 | 12 | 4 | 22 | 3 | 32 | 4 | 42 | 1 |
| 3 | 3 | 13 | 4 | 23 | 3 | 33 | 2 | 43 | 3 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 4 | 14 | 3 | 24 | 1 | 34 | 2 | 44 | 4 |
| 5 | 3 | 15 | 2 | 25 | 3 | 35 | 1 | 45 | 3 |
| 6 | 1 | 16 | 4 | 26 | 2 | 36 | 2 | 46 | 2 |
| 7 | 4 | 17 | 1 | 27 | 2 | 37 | 3 | 47 | 4 |
| 8 | 3 | 18 | 2 | 28 | 1 | 38 | 3 | 48 | 2 |
| 9 | 2 | 19 | 2 | 29 | 2 | 39 | 1 | 49 | 2 |
| 10 | 3 | 20 | 4 | 30 | 1 | 40 | 4 | 50 | 4 |

## Part : II    Scholastic  Aptitude  Test

| Q.No | Option | Q.No | Option | Q.No | Option | Q.No | Option | Q.No | Option |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 21 | 2 | 41 | 1 | 61 | 1 | 81 | 4 |
| 2 | 2 | 22 | 4 | 42 | 4 | 62 | 1 | 82 | 4 |
| 3 | 2 | 23 | 3 | 43 | 2 | 63 | 4 | 83 | 3 |
| 4 | 2 | 24 | 3 | 44 | 4 | 64 | 1 | 84 | 1 |
| 5 | 4 | 25 | 4 | 45 | 1 | 65 | 2 | 85 | 4 |
| 6 | 1 | 26 | 4 | 46 | 4 | 66 | 4 | 86 | 4 |
| 7 | 3 | 27 | 2 | 47 | 2 | 67 | 3 | 87 | 1 |
| 8 | 4 | 28 | 3 | 48 | 3 | 68 | 4 | 88 | 3 |
| 9 | 3 | 29 | 4 | 49 | 3 | 69 | 1 | 89 | 2 |
| 10 | 4 | 30 | 1 | 50 | 4 | 70 | 2 | 90 | 1 |
| 11 | 1 | 31 | 2 | 51 | 1 | 71 | 1 | | |
| 12 | 3 | 32 | 1 | 52 | 3 | 72 | 4 | | |
| 13 | 4 | 33 | 3 | 53 | 1 | 73 | 1 | | |
| 14 | 3 | 34 | 2 | 54 | 1 | 74 | 2 | | |
| 15 | 1 | 35 | 3 | 55 | 4 | 75 | 3 | | |
| 16 | 1 | 36 | 4 | 56 | 2 | 76 | 1 | | |
| 17 | 3 | 37 | 3 | 57 | 2 | 77 | 3 | | |
| 18 | 4 | 38 | 1 | 58 | 4 | 78 | 3 | | |
| 19 | 4 | 39 | 2 | 59 | 3 | 79 | 3 | | |
| 20 | 2 | 40 | 4 | 60 | 2 | 80 | 4 | | |

## Part – III  Language Comprehensive Test

| Q.No | Option | Q.No | Option | Q.No | Option | Q.No | Option |
|---|---|---|---|---|---|---|---|
| 1 | 3 | 11 | 3 | 21 | 1 | 31 | 2 |
| 2 | 4 | 12 | 2 | 22 | 1 | 32 | 3 |
| 3 | 1 | 13 | 3 | 23 | 1 | 33 | 1 |

| 4 | 1 | 14 | 1 | 24 | 2 | 34 | 3 |
|---|---|----|---|----|---|----|---|
| 5 | 2 | 15 | 1 | 25 | 4 | 35 | 2 |
| 6 | 4 | 16 | 4 | 26 | 3 | 36 | 1 |
| 7 | 4 | 17 | 2 | 27 | 2 | 37 | 4 |
| 8 | 3 | 18 | 1 | 28 | 4 | 38 | 1 |
| 9 | 1 | 19 | 2 | 29 | 4 | 39 | 3 |
| 10 | 4 | 20 | 3 | 30 | 1 | 40 | 4 |