NATIONAL TALENT SERVICE EXAM (NTSE)
MODEL QUESTION PAPER

MENTAL ABILITY TEST

PART – 1

Directions: In the following questions (1 – 10) there are five groups of letters in each. Four of these groups are alike in same way while one is different. Find the one that is different and will be your answer as well.

Q1.

(a) asibu   (b) oarse

(c) oinak   (d) zamol

(e) yaixe

Q2.

(a) MNM   (b) HJR

(c) VWD   (d) BCX

(e) KLO

Q3.

(a) ira   (b) aam

(c) kas   (d) utr

(e) btd

Q4.

(a) yxz   (b) cbd

(c) nmr   (d) wvx

(e) pqo

Q5.

(a) AiiR   (b) MooX

(c) VxxZ   (d) DecY

(e) DffH

Q6.

(a) cot   (b) pot

(c) but   (d) hut

(e) mat

Q7.

(a) AabD   (b) eEcf

(c) pPrs   (d) nNxz

(e) dDrs

Q8.

(a) ability   (b) capability

(c) probability   (d) surety

(e) flexibility

Q9.

(a) doe   (b) man

(c) xaz   (d) poq

(e) oep

Q10.

(a) ACE   (b) PKR

(c) NPR   (d) GIK

(e) PRT

Directions: In each of following questions, there are four or five alternatives given. Find the correct one for each question.

Q11. **Two numbers are in the ratio 5:6 and if 4 is subtracted from each, they are reduced to 2:3, then the highest number is**

(a) 4   (b) 12

(c) 8   (d) 10

Q12. **A square and a triangle have equal areas. If the ratio side of square and the height of triangle is 2/3 find the ratio of base to height.**

(a) 2/3   (b) 4/3

(c) 4/5   (d) 9/8

(e) None of these

Q13. **How many prime numbers lie between 115 – 122.**

(a) 2   (b) 3

(c) 4   (d) 5

(e) 6

Q14. **Ram is 5 times as old as Shyam. If their difference of age is 8 years, how old is Ram?**

(a) 8 years   (b) 10 years

(c) 12 years   (d) 5 years

(e) None of these

Q15. **A runs faster than E but not so fast as B and B runs faster than C but not as faster than D, who runs faster?**

(a) A   (b) B

(c) C   (d) E

Q16. **The pages of a book are numbered for 1 to 100 manually. How many times will be it be essential to write the number 5?**

(a) 20   (b) 19

(c) 18   (d) 9

(e) 10

Q17. A person climbs up a pole of 88 mt high, in every minute he climbs 12 mt but slips down 8 mt. So how much time he will take to reach at the top?

(a) 19   (b) 29

(c) 28   (d) 22

(e) 14

Q18. How many square of side 5 cm cab ve adjusted in a rectangular box of size $25 \times 15 \times 10$ cm

(a) 30   (b) 60

(c) 50   (d) 40

(e) None of these

Q19. The sum of 3 positive numbers in AP is 189. The sum of their squares is 11915. Find their product.

(a) 7930   (b) 8970

(c) 9703   (d) 7960

(e) None of these

Q20. Find the number whose square root is twice of its cubic root.

(a) 128   (b) 64

(c) 16   (d) 4

(e) None of these

Q21. There are 24 birds on a tree. A hunter fired a gun and 20 fall down on ground. So how many birds left on the tree?

(a) 4   (b) 7

(c) 24   (d) None of these

Q22. A is four times as efficient as B & A can complete a work in 90 days less time than B. Find in how many days both can complete the work.

(a) 30   (b) 20

(c) 40   (d) 50

Q23. I am the eldest child of my parents. There is a gap of 6 years between the ages of my brother

and sister including myself. If my mother was 22 years, when I was born? What was age at the birth of her youngest child?

(a) 30   (b) 28

(c) 16   (d) 25

(e) None of these.

Q24. The calendar of the year 1982 can next be used for the year?

(a) 1984   (b) 1990

(c) 1985   (d) 1988

(e) None of these

Q25. Two successive discount of 20% and 25% equivalent to what amount of a single discount?

(a) 25%   (b) 10%

(c) 15%   (d) 5%

(e) 20%

Q26. If x persons can complete work in t hours, in how many hours y persons can complete it?

(a) $\dfrac{yt}{x}$ (b) $\dfrac{yx}{t}$

(c) $\dfrac{tr}{y}$ (d) $\dfrac{tx}{y}$

(e) None of these

Q27. Mohan spent 25% of his monthly earning on magazines. Out of the banana amount he spent 75% on the hostel and college fees. If he had Rs. 120 at the end of the month, find how much money he has received from his father in that month?

(a) Rs. 1000 (b) Rs. 1260

(c) Rs. 640 (d) Rs. 850

(e) None of these

Q28. A, B and C are partners and invests in a business such that A spends $1/4^{th}$ of the total. B spends $1/5^{th}$ less than C. If C's investment is 1/3, find the ratio of their profits on a amount of 4300.

(a) 15:20:8 (b) 20:15:8

(c) 8:15:20 (d) 25:5:8

(e) None of these

Q29. In a cage, there are rabbits and parrots and the number of heads are 28 and feet are 72. Find the number of parrots and rabbits.

(a) 20, 8 (b) 8, 20

(c) 14, 14 (d) 12, 16

(e) None of these

Q30. Some students are divided into two groups A & B. If 10 students are sent from A to B, the number in each is the same. But if 20 students are sent from B to A, the number in A is double the number in B. Find the number of students in each group A & B.

(a) 100, 80 (b) 80, 100

(c) 110, 70 (d) 70, 110

(e) None of these

DIRECTIONS: In each of the following questions, a series of numbers is given followed by a blank space with a (?) question mark on it. The number to fill in the blank is given has one of the alternative among the five given under each question. Find the correct alternative in each case.

Q31. 3, 18, 43, 78, 123,?

(a) 169 (b) 178

(c) 163 (d) 153

(e) 157

Q32. 1, 5, 13, 29, 61, 125, ?

(a) 252 (b) 258

(c) 255 (d) 253

(e) None of these

Q33. **49, 343, 64, ?, 81, 729**
(a) 1024   (b) 512
(c) 778   (d) 182
(e) None of these

Q34. **55296, ?, 288, 36, 9.**
(a) 3456   (b) 3436
(c) 4638   (d) 3638
(e) None of these.

Q35. **30, 56, 90, 132, 182, ?**
(a) 3627   (b) 3234
(c) 1206   (d) 2412
(e) None of these.

DIRECTIONS: The six faces of a cube are painted in a manner that no two adjacent faces have the same colour. The three colour used in the painting are red, blue and green. The cube is then cut into 64 equal cubical parts. Answer the following questions.

Q36. **How many cubes in all have three sides painted?**
(a) 24   (b) 16
(c) 10   (d) 8
(e) None of these

Q37. **How many cubes have only two sides painted?**
(a) 16   (b) 24
(c) 8   (d) 6
(e) None of these.

Q38. **How many cubes have one and two sides painted but the third side is not painted.**
(a) 28   (b) 24
(c) 48   (d) 64
(e) None of these

Q39. **How many cubes are there whose only one side is painted?**
(a) 24   (b) 4
(c) 48   (d) 64
(e) None of these

Q40. **How many cubes are there which has no sides painted?**
(a) 8   (b) 64
(c) 36   (d) 48
(e) 16

DIRECTIONS: The following questions are based on letter series from which some of the letters are missing. The missing letters are given in the proper sequence as are of the alternative among the five given under each question. Find the correct alternative for each case.

Q41. **aab – aaa – bba –**
(a) bab   (b) abb
(c) baa   (d) bba
(e) None of these

Q42. **abba** − **baaabba** − **bbaaa**

(a) aaa   (b) aba
(c) bba   (d) abab
(e) None of these

Q43. − **abaaaba** − **a** − **a**

(a) aab   (b) abb
(c) aba   (d) bba
(e) None of these

Q44. **b** − **a** − **aab** − **ab** − −

(a) abaaa   (b) ababa
(c) aabba   (d) bbaba
(e) babab

Q45. **p** − **x** − **pt** − − − **txppt**

(a) ptxptx   (b) pxtptx
(c) ptptxt   (d) xptxpt
(e) tpxppx

DIRECTIONS: In each of the following question apply the interchanging of the codes to choose correct alternative.

Q46. **If PRESS = RESSP**
Then SMLE = ?

(a) SMLE   (b) SMILE
(c) SLME   (d) SLMIE
(e) None of these

Q47. **If STUPID = STUPID then CYCLES?**

(a) CYESCL   (b) CYLECS
(c) CYELCS   (d) CYECSL
(e) CYLCES

Q48. **If ROTUND = RONDTU, then PATATO = ?**

(a) POTOTA   (b) POTOAT
(c) PATOO   (d) POOTAT
(e) POOATT