

## Social Science

- 1) The East India Company got Bombay from  
A) the Mughal emperor                      B) the Marathas  
C) the prince Charles II                    D) the Portuguese
  
- 2) The traitor responsible for the arrest and death of Tantya Tope was  
A) Nanasaheb                                  B) Mansingh  
C) Wajid Alisha                                D) Nawab of Oudh
  
- 3) The first girls high school was started at Poona by  
A) M.G. Ranade                                B) Annie Beasant  
C) Sister Nivedita                            D) Tara Bai
  
- 4) The military pact of the Communist bloc  
A) NATO                                        B) SEATO                                        C) Warsaw                                        D) CENTO
  
- 5) Consumer court at the lowest level is found at  
A) State    B) District  
C) Taluk    D) Village
  
- 6) The two important types of coal are  
A) Anthracite and Bituminous                B) Anthracite and Hematite  
C) Hematite and Magnetite                    D) Pyrolusite and psilomelane
  
- 7) The type of forest where the trees of pendent roots are commonly found  
A) Himalayan vegetation                      B) Monsoon forest  
C) Mangrove forest                              D) Evergreen forest
  
- 8) The advantage of “Diani” system to the British was  
A) they got the right to look after the administration  
B) they got the right to collect the revenue from Bengal  
C) they got control over Delhi  
D) they secured the right to replace the ruler at Bengal.
  
- 9) The nation that does not match with the leader is  
A) Egypt-Gadafi                                      B) Uganda – Obote  
C) Tanganyika – Julius Nyerere                D) Kenya – Jomo Kenyatta
  
- 10) The five year plan which failed because of Chinese aggression was  
A) third    B) fourth  
C) fifth    D) sixth



## General Mental Ability Test

21) Write the next number in the series.

7    65    215    513    999  
 A) 1729                      B) 1289                      C) 1972                      D) 1009

22)  $2 : 9 = 64 : \underline{\hspace{2cm}}$

A) 125                      B) 257                      C) 4225                      D) 625

23) JAZ            LEX            NIV            PMT                        

A) QUR                      B) RQR                      C) RVS                      D) SVR

24) In a certain code NOVEMBER is coded as ONVEMBER, then what is the code of THURSDAY.

A) HTRUSDAY                      B) HTAYRUDS  
 C) HTURDSAY                      D) AYDSURTH.

25) Find the odd man in the number sequence.

4,        7,        12,        20,        38,        71.

A) 7                      B) 12                      C) 38                      D) 20

26) Find the missing number in the square

24	15	32
40	20	11
33	?	21

A) 17                      B) 20                      C) 3                      D) 10

27) Interchange (i) the symbols + and  $\div$  (ii) the number 2 and 4 and find out which equation is correct.

A)  $2 + 4 \div 3 = 3$                       B)  $4 + 2 \div 6 = 15$   
 C)  $4 \div 2 + 3 = 4$                       D)  $2 + 4 \div 6 = 8$

28) Egg : Chicken :: Seed :                     

A) tree                      B) vegetable                      C) Grow                      D) Garden

29)

25  
 4    20    49  
 36  
 A) 30
 

 26  
 16    22    81  
 9  
 B) 16                      C) 12
 

 4  
 36    ?    9  
 25  
 D) 14

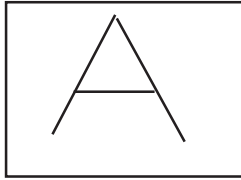
30) Bharath's mother says to Bharat "My son has a son whose son is amar". How is Amar related to Bharat.

- A) Cousin                      B) Father                      C) Brother                      D) Grandfather

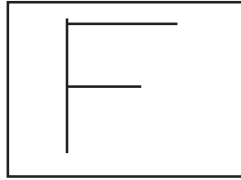
31) Sham travels 7km north then turns right and walks 3 km. He again turns to his right hand side and moves 7km forward. How many km is sham away from the place of his starting point?

- A) 3 km                      B) 6 km                      C) 7km                      D) 9 km

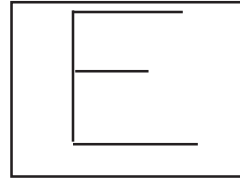
32) Find the odd one.



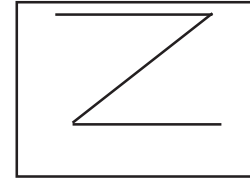
A



B



C



D

33) Three of the following four are alike in a certain way and so form a group. Which one does not belong to that group?

- A) ears                      B) hands                      C) fingers                      D) eyes

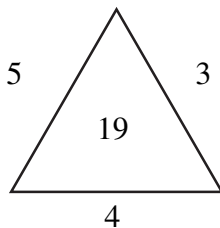
34) Which of the following words will come at second position if all the words are arranged alphabetically?

- A) Arrangement                      B) Arrest                      C) Arrears                      D) Arrival

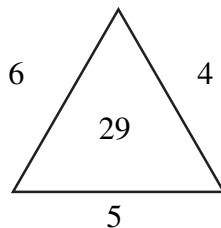
35) Find the simple interest on Rs. 400 for 5 years at 6 percent interest rate.

- A) 120                      B) 102                      C) 210                      D) 201

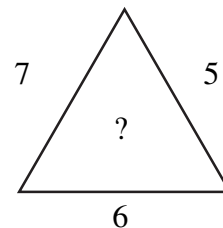
36) Find the missing number.



A) 25



B) 37



C) 47

D) 41

37)  $\frac{100 \times 40 + 64 - 13}{12} = ?$

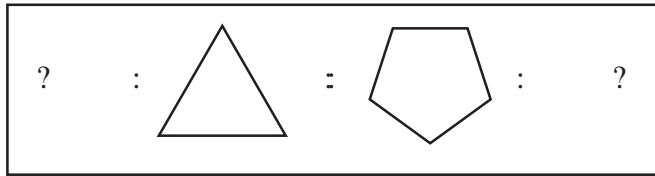
- A) 337.5                      B) 733                      C) 373.5                      D) 456.5

38) How many 7s are there in the following series of numbers which are not immediately followed by 3 but immediately preceded by 8?

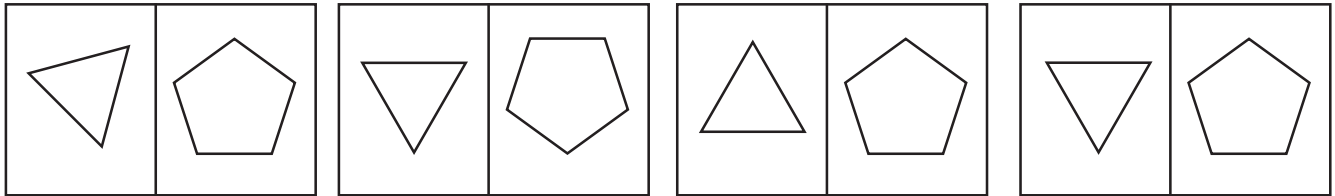
8,9,8,7,6,2,2,6,3,2,6,9,7,3,2,8,7,2,7,7,8,7,3,7,7,9,4

- A) 10                      B) 3                      C) 2                      D) 0

39) Problem figures



Answer figures



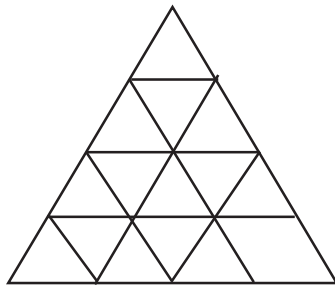
A

B

C

D

40) How many straight lines are there in the picture ?



A) 9

B) 1

C) 15

D) 48

### Science

41) To avert the energy crisis, it is recommended to use

A) renewable sources of energy

B) bio-wastes

C) solar energy

D) all of the above

42) The only pair which does not overlap in the complete electromagnetic spectrum is

A) Infrared rays and microwaves

B) X-rays and Y-rays

C) visible light and radio waves

D) ultraviolet light and X-rays

43) which one of the following statements is true about the universe?

A) Universe has not changed over the years

B) It is about 20 million years old

C) It is expanding

D) Universe is getting heated up.

44) If you want to make a three-dimensional photo of a landscape, the technique that is most likely to help is

A) Chromatography

B) Radiography

C) Holography

D) Crystallography

45) You detect leakage of LPG gas by

A) the unique smell of ethyl mercaptan added to it

B) the fire caused by its burning

C) the pressure it exerts on the walls of the pipe

D) noticing the loss of gas from the cylinder.

- 46) The main function of the collenchyma tissue is to  
 A) carry out photosynthesis  
 B) Provide mechanical support to the plant  
 C) absorb water and food  
 D) stored food.
- 47) Glasses are imparted the desired colour by adding a suitable  
 A) synthetic colour  
 B) natural colour  
 C) metal oxide  
 D) water paint.
- 48) Which one of the following electronic configurations explains the tetravalency of carbon?  
 A)  $1S^2 2S^2 2P^2$   
 B)  $1S^1 2S^1 2P^1 3S^1$   
 C)  $1S^2 2S^1 2P_x^1 2P_y^1 2P_z^1$   
 D)  $1S^2 2S^2 2P_x^1 2P_y^1$
- 49) Which one of the following statement is true ?  
 A) A person with AIDS need not have HIV infection  
 B) A person with HIV need not be having AIDS  
 C) A person with no symptoms of AIDS cannot spread HIV infection  
 D) Drugs can cure AIDS disease.
- 50) Rhizobium present in the root nodules of leguminous plants converts  
 A) nitrogen compounds into ammonium salts  
 B) atmospheric nitrogen into plant proteins  
 C) ammonium salts into nitrates and nitrites  
 D) nitrates in the soil into free nitrogen.

## Mathematics

- 51)  $x, y, z$  are such that  $\frac{x}{z} = \frac{x-y}{y-z}$  then  
 A)  $x, y, z$ , are in A.P.  
 B)  $\frac{1}{x}, \frac{1}{y}$  and  $\frac{1}{z}$  are in H.P.  
 C)  $\frac{1}{x}, \frac{1}{y}, \frac{1}{z}$  are in A.P.  
 D)  $x, y$  and  $z$  are in G.P.
- 52) If  $A = \begin{bmatrix} 3 & -2 \\ 4 & 2 \end{bmatrix}$   $A - A^{-1}$  will be  
 A) a null matrix  
 B) a symmetric matrix  
 C) a skew symmetric matrix  
 D) an identity matrix
- 53) Out of 12 points 5 are collinear. The number of straight lines that can be obtained by joining the points is given by  
 A)  $12C_2 - 5C_2$   
 B)  $12C_2 - 5C_2 + 1$   
 C)  $12C_2 + 5C_2$   
 D)  $7C_2$

54) If  $x^2 + \frac{1}{x^2} = 100$ , then the value of  $x - \frac{1}{x}$  is

- A) 8                      B) 10                      C)  $7\sqrt{2}$                       D) 13

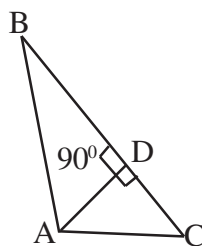
55) Roots of the equation  $x^2 - 6x + 9 = 0$  are

- A) Irrational                      B) Imaginary                      C) equal                      D) not equal

56) Out of a group of swans  $\frac{7}{2}$  times the square root of their number are swimming in water while remaining two are playing on the shore. The correct Q.E. to solve this problem is

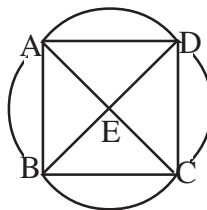
- A)  $x + \sqrt{x} = \frac{7}{2}$       B)  $\frac{7}{2} \sqrt{x} + 2 = x$       C)  $\frac{7}{2}x + \sqrt{x} = 2$       D)  $x + \sqrt{x} = \frac{7}{2}$

57) In the figure given  $AB = 4$  cm,  $BC = 5$  cm,  $AC = 3$  cm,  $AD \perp BC$ . The length of  $AD$  is



- A) 6 cm                      B) 1.2 cm                      C) 2.4 cm                      D) 3.6

58) In the given graph, nodes of the same order are



- A) A, B, C, E,                      B) C, D, E, B,                      C) D, B, A, E,                      D) B, A, C, D

59)  $\sqrt[3]{5}$  and  $\sqrt[4]{6}$  can be multiplied when they are in

- A) order 7                      B) order 8                      C) order 12                      D) the given order

60) A right circular cone has a radius  $3r$ . Its height is equal to the radius of the base. Then its volume is

- A)  $\frac{\pi r^3}{3}$                       B)  $\frac{2\pi r^3}{3}$                       C)  $3\pi r^3$                       D)  $9\pi r^3$