

10. Which of the following products obtained by destructive distillation of coal is not properly matched -
- (A) Coal tar- Dyes, explosives, paints
 - (B) Coal gas-Fuel
 - (C) Coke-Drinking purposes
 - (D) Ammoniacal liquor-Fertilizers

BIOLOGY

11. The bread dough rises because of:
- (A) heat (B) grinding (C) growth of yeast cells (D) kneading
12. Removal of weeds is necessary for plant growth because
- (A) weeds compete with crop for nutrition (B) weeds interfere in harvesting
- (C) weeds may be poisonous (D) all of the above
- 13.. High and low temperature
- (A) inhibits the growth of microorganism. (B) kills many microorganism.
- (C) increase the growth of organism. (D) Both (A) and (B).
14. Refrigerators, air conditioners and aerosol sprays have_____pollutant.
- (A) CFCs (B) CCFs (C) FCCs (D) None of the above
15. A tadpole develops into an adult by the process of
- (A) fertilization (B)metamorpho (C) embedding (D)budding

MATHEMATICS

16. Find X:- $\frac{8x-3}{3x} = 2$
- (A) 2 (B) 1.5 (C) 0.66 (D) 0.33
17. Evaluate:- $\frac{8^{-1} \times 5^3}{2^{-4}}$
- (A) 125 (B) 250 (C) 100 (D) 50

18. Find the smallest square number that is divisible by each of the number 4,9 and 10.
(A) 90 (B) 180 (C) 45 (D) 9
19. Find the value of $\frac{(2)^3 + (10)^3}{\sqrt{1016064}}$
(A) 1 (B) 2 (C) 3 (D) 4
20. Evaluate $\left\{ \left(\frac{1}{3} \right)^{-1} - \left(\frac{1}{4} \right)^{-1} \right\}^{-1}$
(A) 1 (B) 2 (C) -2 (D) -1
21. What is 15 percent of Rs. 34 ?
(A) Rs. 3.40 (B) Rs. 3.75 (C) Rs. 4.50 (D) Rs. 5.10
22. If $x^2 + \frac{1}{x^2} = 51$, find the value of $x - \frac{1}{x}$.
(A) 49 (B) 51 (C) 7 (D) 53
23. The diagonals of two squares are in the ratio of 2 : 5. Find the ratio of their areas.
(A) 4:25 (B) 25:4 (C) 2:5 (D) 5:2
24. If each side of a square is increased by 25%, find the percentage change in its area.
(A) 25% (B) 56.25% (C) 55.25% (D) 75%
25. 125 people finish a piece of work in 120 days. Find the number of people required to finish the same work in 100 days.
(A) 125 (B) 300 (C) 120 (D) 15

MENTAL ABILITY TEST

26. What should come next in the following letter sequence?
A A B A B C A B C D A B C D E A B C D
(A) A (B) E (C) C (D) B
27. 583 is related to 293 in the same way as 488 is related to ____
(A) 291 (B) 378 (C) 487 (D) 581

28. Two bus tickets from city A to B and three tickets from city A to C cost Rs. 77 but three tickets from city A to B and two tickets from city A to C cost Rs. 73. What are the fares for cities B and C from A ?
- (A) Rs. 4, Rs. 23 (B) Rs. 13, Rs. 17 (C) Rs. 15, Rs. 14 (D) Rs. 17, Rs. 13
29. Directions : For the Assertion (A) and Reason (R) below, choose the correct alternative
- Assertion (A) : Pressure cookers are fitted with ebonite handles.
- Reason (R) : Ebonite is strong.
- (A) Both A and R are true and R is the correct explanation of A.
- (B) Both A and R are true but R is NOT the correct explanation of A.
- (C) A is true but R is false.
- (D) A is false but R is true.
30. There are six persons A, B, C, D, E and F. C is the sister of F. B is the brother of E's husband. D is the father of A and grandfather of F. There are two fathers, three brothers and a mother in the group. Who is the mother ?
- (A) A (B) B (C) C (D) E
31. Four of the following five are alike in a certain way and so form a group. Which one does not belong to that group?
- (A) Tooth (B) Chin (C) Nose (D) Ear (E) Eye
32. Find the odd one out
- (A) crusade (B) campaign (C) expedition (D) cruise
33. In a certain code language COMPUTER is written as RFUVQNPC. How will MEDICINE be written in that code language?
- (A) MFEDJJOE (B) EOJDEJFM (C) MFEJDJOE (D) EOJDJEFM
34. In a certain code '13' means 'stop smoking' and '59' means 'injurious habit'. What is the meaning of '9' and '5' respectively in that code ?
- I. '157' means 'stop bad habit'.
- II. '839' means 'smoking is injurious'.
- (A) If the data in statement I alone are sufficient to answer the question
- (B) If the data in statement II alone are sufficient answer the question
- (C) If the data either in I or II alone are sufficient to answer the question;

(D) If the data even in both the statements together are not sufficient to answer the question

35. If South-East becomes North, North-East becomes West and so on. What will West become?

- (A) North-East (B) North-West (C) South-East (D) South-West

36. In the following question, a matrix of certain characters is given. These characters follow a certain trend, row-wise or column wise. Find out this trend and choose the missing character accordingly.

72	24	6
96	16	12
108	?	18

- (A) 12 (B) 16 (C) 18 (D) 20

37. Arrange the words given below in a meaningful sequence.

1.Presentation 2.Recommendation 3. Arriva 4.Discussion 5.Introduction

- (A) 5, 3, 4, 1, 2 (B) 3, 5, 4, 2, 1 (C) 3, 5, 1, 4, 2 (D) 5, 3, 1, 2, 4

38. Which of the following Venn- diagram correctly illustrates the relation ship among the classes : Tennis fans, Cricket players, Students

- (A) 1 (B) 2 (C) 3 (D) 4

39. Find out the two signs to be interchanged for making following equation correct

$$5 + 3 \times 8 - 12 / 4 = 3$$

- (A) + and - (B) - and / (C) + and x (D) + and /

40. The admission ticket for an exhibition bears a password which is changed after every clock hour based on set of words chosen for each day. The following is an illustration of the code and steps of rearrangement for subsequent clock hours. The time is 9 a.m. to 3 p.m.

Day's first password :

First Batch ----- 9 a.m. to 10 a.m.

is not ready cloth simple harmony burning

Second Batch ----- 10 a.m. to 11 a.m.

ready not is cloth burning harmony simple

Third Batch ----- 11 a.m. to 12 noon

cloth is not ready simple harmony burning

Fourth Batch ----- 12 noon to 1 p.m.

not is cloth ready burning harmony simple

Fifth Batch ----- 1 p.m. to 2 p.m.

ready cloth is not simple harmony burning and so on.

If the password for 11 a.m. to 12 noon was --- "soap shy miss pen yet the she", what was the password for the first batch ?

- (A) pen miss shy soap she the yet (B) shy miss pen soap yet the she
(C) soap pen miss shy she the yet (D) miss shy soap pen she the yet