

CTS Sample Paper

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SECTION-1:

Find the next in the sequence:

1. BC CE EG GK ?

- a)KN
- b)KU
- c)KM
- d)None

2. AA AB BC CE?

- a)EG
- b)EH
- c)EI
- d)None

3. AB EF JK QR ?

- a)YZ
- b)ZA
- c)AB
- d)None

4.ACD EGL IKT MOB?

- a)QST
- b)QSZ
- c)QSY
- d)None

5.AC CG GO OE?

- a)EJ
- b)EI
- c)EL
- d)None

6. AE BH CM DU?

- a) EH
- b) EZ
- c) EB
- d) None

7. AD DP PL LV

- a) VS
- b) VK
- c) VI
- d) None

8. SE QU EN TI?

- a) CN
- b) BM
- c) AI or AZ
- d) None

SECTION-II:

Find the values for the following problem:

$f(X) = 2X - 1 + f(X-1)$ if X is not equal to zero and $f(0) = 0$

9. Value of $f(5)$

- a) 15
- b) 24
- c) 22
- d) None

10. Value of $f(f(2))$

11. Value of $f(16) - f(15)$

12. Value of $f(16) + f(15) - 480$

13. If $f(f(X))=81$ then the value of $X=?$

14. If $f(X)=4f(X-1)$ then the value of $X=?$

15. If $f(X) = f(X-1)+f(X-2)$ for $X>1$ then $X= ?$

16. If $f(X)-f(X-1)=f(X-8)$ for $X>5$ then $X=$

SECTION -III:

In the following questions a 'word' is given which may not have any meaning. Find different possible words or palindromes for the word as per the question.

For the following find no of distinct words that can be formed.

17. TYGHHTT

- a).420
- b)1540
- c)840
- d)None

18. TYGHHTY

19. TYGHHTT

20. TYGHHTT

21. TYGHASD

22. TYGHHTY

Find the number of possible palindromes for following

23. TYGHHTY

24. TYHHHTYH.

SECTION-IV:

*25 to 32 are based on the figures. You have to analyse them and find the odd one out.
Five figures will be given out of which one is not correct.*

Refer R.S Agarwal's book on Analytical Reasoning & TMHs Quantitative ability book by Edgar Thorpe.

SECTION -V:

For following first find out the anagram and then note the corresponding meaning.

33. TABLET

Hint: anagram means first u arrange the letters in correct order like TABLET===BATTLE . So ans is FIGHT

34. RUGGED

35. GORE.

36. STASSI.

For all above choices are.

- a) resentment
- b) fight
- c) help
- d) monster

37. ENFOLD

38. LAMB

39. RECEDE.

40. PLEASE.

For all the above 4 choices are same

- a) cuddle
 - b) sleeping
 - c) proclamation
 - d) ointment.
-

SECTION I - 8 questions based on series.

1. These questions involve interchange of letters in a word at particular locations and also interchanging letters adjacent to those particular locations. Certain other conditions may also be given

For eg.

Let the word be ABBAABA

If we apply 25 on this, it means we have to interchange the letters at positions 2 and 5, also we have to change the letters adjacent to positions 2 and 5 i.e. from A to B and B to A.

A B B A A B after Step 1 i.e interchange of 2 and 5 becomes AABABB

Now change adjacent elements of 2 and 5...finally answer becomes

Ans: B A A B B A

Questions 1-5 are based on the pattern with changed numbers as described above

Questions 6-8 are of the following type

To get AAABBD from BBBAAB what number should be applied:-

a) 25

b) 34

c) 25 & 34

d) none

SECTION II

1. Given the following functions

$$(1) f(n a b c) = ac \text{ if } n=1$$

$$(2) f(n a b c) = f(n-1 a c b) + f(1 a b c) + f(n-1 b a c) \text{ if } n > 1$$

Then what is the value $f(2 a b c) = ?$

Ans: $f(2 a c b) = ab + ac + bc.$

2. Similar question on functions.

3. [Based on the function in the first question] For the function $f(4 a b c)$ the number of terms is...?

Hint $f(4 a b c) = f(3 a c b) + f(1 a b c) + f(3 b a c)$ etc.

4. What is the value of the function $f(5 a b c) = ?$

SECTION III

Permutations and Combinations.
8 Questions.

1. $r =$ number of flags; $n =$ number of poles;
Any number of flags can be accommodated on any single pole.

1) $r=5, n=5$ The no. of ways the flags can be arranged ?

Questions 2-5 are based on the above pattern

6. $r = 5, n = 3$. If first pole has 2 flags, third pole has 1 flag
How many ways can the remaining be arranged?

Questions 7.& 8. are similar to Question 6.

SECTION IV

Question consisting of figures - Pattern-matching type.

Refer R.S Agarwal's book on Analytical Reasoning & TMHs Quantitative ability book by Edgar Thorpe.

SECTION V

In this section first part of compound word is given. Select meaning of the second part from the choice given:

1. Swan
2. Swans
3. Fool
4. Fools
5. Stare
6. Lady

For all above 4 choices are given.....

Eg. Swan ---> Swansong (compound word)

a) category b) music c) television d) none

Ans: Swansong is compound word. But song is not given as an option. so (b) music is the answer.

Analogies

1. slur : speech :: smudge : ?

Ans. writing

2. epaulet : shoulder :: ring : ?

Ans. finger

3. vernacular : place :: fingerprint : ?

Ans. identical

Opposites

Q. corpulent

Ans: emaciated

Q. officious

Ans: pragmate

Q. dextrous

Ans: clumsy

The following sentences are broken into 4 sections- A, B, C, D

Choose the part which has a mistake

Mark (E) if you find no mistake.

Q.A)psychologists point out that B)there are human processes C)which does not involve D) the use of words

Ans. (C) which does not involve (do)

Q.A)jack ordered for B)two plates of chicken C)and a glass D)of water

Ans. (A)jack ordered for

The following is a group of questions is based on a passage or a set of conditions for each question.

Select the best answer choice given.

(i). If it is forbidden by law if the object of agreement is the doing of an act, that is forbidden by law the agreement is void.

(ii). If it is of the nature that, it would defeat the provision of any law is the agreement is void. if the object of agreement is such that thing got directly forbidden by law it would defeat the provision of statutory law.

- (iii). If the object of agreement is fraudulent it is void.
- (iv). An object of agreement is void if it involves or implies to the personal property of another.
- (v). An object of agreement is void where the constant regards as ignored.
- (vi). An object of agreement is void where the constant regards is as opposed to public policy.

Q. An algorithm follows a six step process $z_a, z_b, z_c, z_d, z_e, z_f$, it is governed by the following

- (i) z_d should follow z_e
- (ii) the first may be z_a, z_d or z_f
- (iii) z_b and z_c have to be performed after z_d
- (iv) z_c must be immediately after z_b

Q. If z_a is the first set z_d must be

- a) 3rd
- b) 5th
- c) 2nd
- d) 4th

Q. If z_b must follow z_a then z_a can be

- a) third or fourth
- b) first or second
- c) can not be third
- d) fourth or fifth
- e) none

Q. If z_e is third term the number of different operations possible are

The following questions are based on the given statements

Ravi plants six separate saplings -- x, y, z, w, u, v in rows no 1 to 6, according to the following conditions

He must plant x before y and u

He must plant y and w

The third has to be z

Q. Which of the following is acceptable

- a) $xuywzv$
- b) $xvzyuw$
- c) $zuyxwv$

- d) zvxuwy
- e) wyzuvx

Q. Which of the following is true

- a) z before v
- b) z before x
- c) w before u
- d) y before u
- e) x before w

Q. If he plants v first, then which can be planted second

- a) x
- b) y
- c) z
- d) w
- e) u

Q. Which of the following describes a correct combination of sapling and row?

- a) x,3
- b) y,6
- c) z,1
- d) w,2
- e) u,6

Q. If he plants b 6th which would be planted first and second

- a) x and w
- b) x and y
- c) y and x
- d) w and z
- e) w and u

Q. If he plants w before u and after v he should plant w at

- a) first
- b) second
- c) fourth
- d) fifth
- e) sixth

Q. At a certain moment a watch shows 2 min lag although it is running fast.

If it showed a 3 min lag at that moment, but also gains by $\frac{1}{2}$ min more a day than its current speed

it would show the true time one day sooner than it usually does.

How many mins does the watch gain per day.

- a).2
- b).5
- c).6
- d).4
- e).75

Q. In 400m race A gives B a start of 7 sec and beats him by 24 sec.

In another race A beats B by 10 sec.the speeds are in the ratio

- a)8:7
- b)7:6
- c)10:8
- d)6:8
- e)12:10

Q. $3x+4y=10$

$$x^3 + y^3=6$$

What is the minimum value of $3x+11y=?$

Q. There are 600 tennis players

4% wear wrist band on one wrist

Of the remaining, 25% wear wrist bands on both hands

How many players don't wear a wrist band?

Ans. 432

Q. Three types of tea the a,b,c costs Rs. 95/kg,100/kg and70/kg respectively.

How many kgs of each should be blended to produce 100 kg of mixture worth Rs.90/kg, given that the quantities of band c are equal

- a)70,15,15
- b)50,25,25
- c)60,20,20
- d)40,30,30

Ans. (b)

Q. Two distinct no's are taken from 1,2,3,4.....28
Find the probability that their sum is less than 13