Questions & Solutions

for

NTSE (Stage-I) 2017-18

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you answer the questions.

1. Total number of questions are 200 (100 Q. MAT & 100 Q. SAT) for this paper. All questions carry one mark each.
2. All questions are compulsory.
3. For each question there are four options given in question paper. Check for the correct answer and bubble correct option from four circles given in answer sheet by Black/Blue pen. Please do not write any answers on question papers.
4. Start answering from first question one after the other till last question.
5. If you do not know the answer of any question, do not spend much time on it and pass on to the next one. Time permitting you can come back to the questions which you have left in the first instance and try them again.
6. Utilize the allotted time for solving the questions in best possible way. The rough work is to be done in the box given under each page.

MAT:- PART-I : MENTAL ABILITY TEST

Direction : In question Nos. 1 to 5 there is a number series with one term missing shown by question mark (?) This term is one of the following four alternative given. Choose the correct number from options.

1. 1, 4, 27, 16, ?, 36, 343

   (A) 25   (B) 87

   (C) 120   (D) 125

Answer (D)

Sol. 1^3, 2^2, 3^3, 4^2, $\mathbf{5^3}$, 6^2, 7^3

2. 4, 7, 12, 19, 28, ?

   (A) 30   (B) 36

   (C) 39   (D) 49

Answer (C)

Sol. +3 +5 +7 +9 +11

     4, 7, 12, 19, 28, **39**

3. 10, 18, 28, 40, 54, ?, 88

   (A) 68   (B) 70

   (C) 71   (D) 74

Answer (B)

Sol. +8 +10 +12 +14 +16 +18

     10, 18, 28, 40, 54, **70**, 88

4. 4, 12, 36, 108, ?

   (A) 144   (B) 216

   (C) 304   (D) 324

Answer (D)

5. 1, 9, 25, 49, ?, 121

   (A) 64   (B) 81

   (C) 91   (D) 100

Answer (B)

Sol. 1^2, 3^2, 5^2, 7^2, $\mathbf{9^2}$, 11^2

6. **Bread** is related to **Wheat** in the same way as **Brick** is related to ...... :

   (A) Fire   (B) Cement

   (C) Clay   (D) Building

Answer (C)

7. **Waves** is related to **Air** in the same way as Ripples is related to ...... :

   (A) Water   (B) Wind

   (C) Storm   (D) Smoke

Answer (A)

8. **Accident** is related to **Carefulness** in the same way **Disesase** is related to .... :

   (A) Treatment   (B) Medicine

   (C) Sanitation   (D) Doctor

Answer (C)

Direction : In question Nos. 9 - 13 there is a question mark in the blank space and it is only one of the four alternatives given under the question which satisfies the same relation as is found between the two patterns to the left of the sign : : given in the question. Find the correct alternative.

9. Clock : Time : : Thermometer : ?

   (A) Heat   (B) Radiation

   (C) Energy   (D) Temperature

Answer (D)

10. Hot : Oven : : Cold : ?

   (A) Refrigerator   (B) Air Conditioner

   (C) Ice Cream   (D) Snow

Answer (A)

11. Ornament : Gold : : Needle : ?

    (A) Stich   (B) Steel

    (C) Tip   (D) Thread

Answer (B)

12. Earth : Sun : : Moon : ?

    (A) Orbit   (B) Sky

    (C) Star   (D) Earth

Answer (D)

13. South : North-West : : West : ?

    (A) East   (B) South

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

Answer (C)

Sol. North-East, Rotate 135° Clockwise.

14. In a certain language MYSTIFY is coded as NZTUJGZ, how is NEMESIS coded in that language ?

    (A) MDLHRDR   (B) OFNFTJT

    (C) ODNHTDR   (D) PGOKUGU

Answer (B)

Sol.

M Y S T I F Y
+1 +1 +1 +1 +1 +1 +1
N Z T U J G Z

N E M E S I S
+1 +1 +1 +1 +1 +1 +1
O F N F T J T

15. In certain Code SIKKIM is written as THLJJL. How is TRAINING written in that Code ?

    (A) UQBHOHOF   (B) SQBHOHOH

    (C) UQBJOHHO   (D) UQBJOHOH

Answer (A)

Sol.

```
    S   I   K   K   I   M
  +1 -1 +1 -1 +1 -1
    T   H   L   J   J   L
```

```
    T   R   A   I   N   I   N   G
  +1 -1 +1 -1 +1 -1 +1 -1
    U   Q   B   H   O   H   O   F
```

16. If in a certain language, POPULAR is coded as QPQVMBS, which word would be coded as GBNPVT ?

    (A) FAMOSU   (B) FAMOUS

    (C) FASOUM   (D) FOSAUM

Answer (B)

Sol.

```
    P   O   P   U   L   A   R
  +1 +1 +1 +1 +1 +1 +1
    Q   P   Q   V   M   B   S
```

```
    G   B   N   P   V   T
  -1 -1 -1 -1 -1 -1
    F   A   M   O   U   S
```

17. If PAINT is Coded as 74128 and EXCEL is coded as 93596, then how would you code ACCEPT ?

    (A) 554978   (B) 735961

    (C) 547978   (D) 455978

Answer (D)

Sol. PAINT   EXCEL   ACCEPT

      74128   93596   455978

18. If Z = 52 and ACT = 48, then BAT will be equal to :

    (A) 39   (B) 44

    (C) 46   (D) 50

Answer (C)

Sol. Z = (26 x 2) = 52, ACT = (1 + 3 + 20) x 2 = 48

BAT = (2 + 1 + 20) x 2 = 46

19. Choose the odd one out from following :

(A) Ear   (B) Eye

(C) Nose   (D) Throat

Answer (D)

Sol. Throat

20. A woman introduce a man as the son of the brother of her mother. How is the man related to the women?

(A) Cousin   (B) Son

(C) Nephew   (D) Grandson

Answer (A)

Sol.

Mother ⟶ Mother's Brother

Woman   Son

21. Manoj has brother Pankaj. Manoj is the son of Ajay. Somesh is Ajay's father. How Pankaj is related to Somesh ?

(A) Son   (B) Grandson

(C) Brother   (D) Grand Father

Answer (B)

Sol.

Somesh

Ajay

Manoj —— Pankaj

22. Today is Akash's Birthday. One year from today, he will be twice as old as he was 12 years ago. How old is Akash today ?

(A) 25 years   (B) 27 years

(C) 20 years   (D) 22 years

Answer (A)

Sol. Let present age is x year

x+1 = 2 (x–12)

x+1 = 2x – 24

x = 25 years

23. A father is now three times as old as his son. Five years back, he was four times as old as his son. The age of the son (in years) is :

(A) 12   (B) 15

(C) 18   (D) 20

Answer (B)

Sol. Let age of son = x, age of father = 3x

3x – 5 = 4 (x–5)

3x – 5 = 4x – 20

x = 15 years

24. If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month ?

(A) Monday   (B) Wednesday

(C) Friday   (D) Sunday

Answer (D)

Sol. 7th day = Tuesday

odd day till 19th day will be 12 i.e. 5

Tuesday + 5 day = Sunday

25. Saturday was holiday for Republic Day, 14th of the next month is again holiday for Shivratri. What day was it on the 14th ?

(A) Monday   (B) Thursday

(C) Tuesday   (D) Saturday

Answer (B)

Sol. 26 Jan. – Saturday

no. of odd day from 26th Jan. to 14th Feb. will be 19th i.e. 5 odd day

Saturday + 5 day = Thursday

26. Lalit ranks seventh from top and twenty-sixth from bottom in a class. How many students are there in the class ?

(A) 34   (B) 33

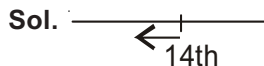(C) 32   (D) 31

Answer (C)

Sol.
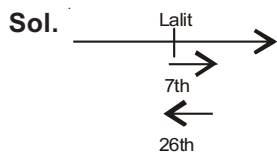
$x + 1 = 7 + 26$

$x = 32$

27. Pooja is fourteenth from the right end in a row of 40 girls. What is her position from the left end ?

(A) 27th   (B) 26th

(C) 25th   (D) 24th

Answer (A)

Sol.

$40 + 1 = 14 + x$

$x = 27th$

28. A man is facing South. He turns 135° in the anti-clockwise direction. Which direction is he facing now?

(A) North-east   (B) South-west

(C) North-west   (D) South-east

Answer (B)

Sol.   **+** means Anti clock wise rotation

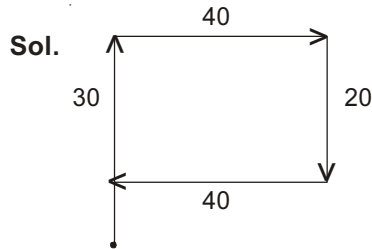- means clock wise rotation

$$135° - 180° = -45°$$

i.e. 45° from south in clock wise direction
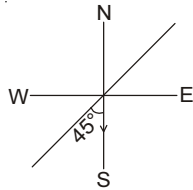
29. A girst goes 30 meters North, then turns right and walks 40 meters, then turns right and walks 20 meters, then again turns right and walks 40 meters. How many meters is she from the original position?

(A) 0 meter

(B) 40 meters

(C) 20 meters

(D) 10 meters

Answer (D)

Sol.

30. Which of the following Venn-diagram correctly illustrate the relationship among the classes (Bus, Car and Vehicle) ?
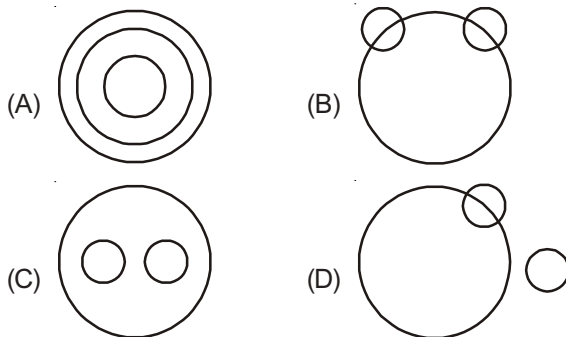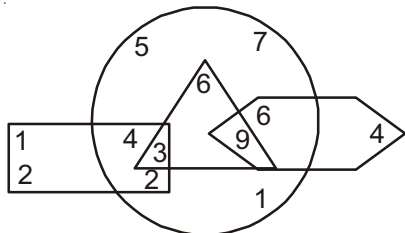

Answer (C)

Sol. (Bus, Car and Vehicle)

Direction : Study the figure given below and answer the question no. 31 to 33.

31. What is the sum of the numbers which belongs to two figures only ?

   (A) 6   (B) 15

   (C) 20   (D) None of these

Answer (C)

Sol. 2 + 4 + 6 + 8 = **20**

32. What is the product of the numbers which belongs to three figures only ?

   (A) 27   (B) 162

   (C) 648   (D) None of these

Answer (A)

Sol. 3 x 9 = **27**

33. What is the sum of numbers which belong to one figure only ?

   (A) 5   (B) 16

   (C) 21   (D) None of these

Answer (C)

Sol. 3 + 1 + 5 + 7 + 1 + 4 = **21**

Direction :
answer the questions (34) and (35).

Series

6, 4, 1, 2, 2, 8, 7, 4, 2, 1, 5, 3, 8, 6, 2, 1, 7, 1, 4, 3, 1, 2, 8, 6

34. How many pairs of successive numbers having difference of 2 each ?

(A) Four

(B) Five

(C) Six

(D) Seven

Answer (C)

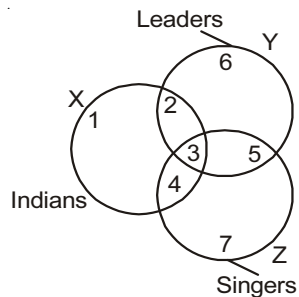**Sol.** 6,4, 1, 2, 2, 8, 7, 4,2, 1, 5,3, 8,6, 2, 1, 7, 1, 4, 3, 1, 2, 8,6

35. Which figures have equal frequencies ?

(A) 4, 6, 8

(B) 1, 4, 6

(C) 1, 2, 3

(D) 4, 5, 7

Answer (A)

Sol. 4, 6, 8 comes three times each.

Direction : Study the following figure carefully and answer the question number **(36)** and **(37)**.

Note : 1, 2, 3, 4, 5, 6, 7 shows the region

36. Which region denotes Indian Leaders who are not singers ?

(A) 5

(B) 4

(C) 3

(D) 2

Answer (D)

Sol. "2" is Indian leader who is not singer

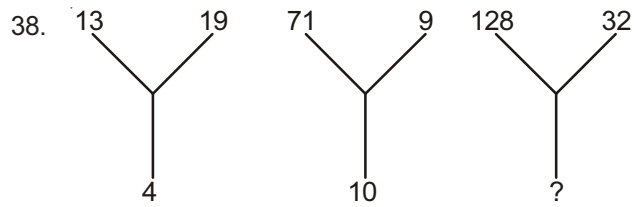37. Which region represents Indian singers who are not leaders ?

(A) 3

(B) 4

(C) 1

(D) 2

Answer (B)

Sol. "4" is Indian singers who is not leader

Direction : In question numbers (38) to (42) find the missing number/character marked with question mark (?).
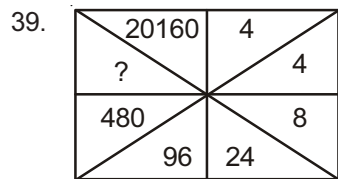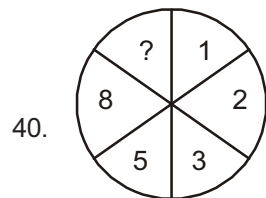
38.

13   19   71   9   128   32

4   10   ?

(A) 10   (B) 15

(C) 20   (D) 25

Answer (C)

Sol. $\dfrac{13+19}{4}=8$, $\dfrac{71+9}{10}=8$, $\dfrac{128+32}{x}=8$, x = 20

39.

20160	4
?	4
480	8
96	24

(A) 2880   (B) 2800

(C) 2400   (D) 1920

Answer (A)

Sol. 4x1 = 4, 4x2 = 8, 8x3 = 24, 24x4 = 96,

96x5 = 480, 480x6 = 2880, 2880x7 = 20160

40.

?   1   8   2   5   3

(A) 10   (B) 12

(C) 13   (D) 15

Answer (C)

Sol. 1 + 2 = 3, 2 + 3 = 5, 3 + 5 = 8, 5 + 8 = 13

41.

5	4	
6	3	?
7	2	4
65	20	45

(A) 1   (B) 2

(C) 3   (D) 4

Answer (A)

Sol. 5 x (6 + 7) = 64, 4 x (3 + 2) = 20,

$9 \times (\boxed{1} + 4) = 45$

42.

A	D	H
F	I	M
?	N	R

(A) P   (B) N

(C) O   (D) K

Answer (D)

Sol. $A(1) + 5 = F(6) + 5 = \boxed{K(11)}$
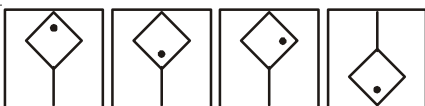
$D(4) + 5 = I(9) + 5 = \boxed{N(14)}$

$H(8) + 5 = M(13) + 5 = R(18)$

Direction : Question number (43) to (47) have a series
with four figures called the problem figures. Bearing series in mind, choose the
correct fift blank figure (marked with?) from answer figures.
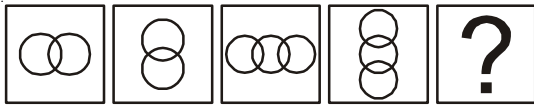
43. Problem Figure

Answer Figure

(A)   (B)   (C)   (D)
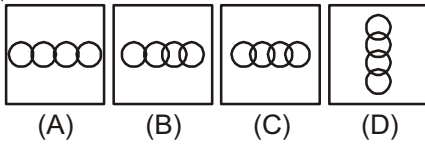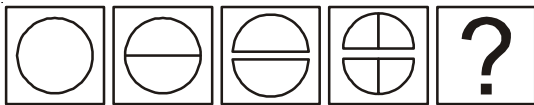
Answer (A)

44. Problem Figure

Answer Figure

(A)   (B)   (C)   (D)

Answer (C)

45. Problem Figure

Answer Figure

(A)   (B)   (C)   (D)

Answer (B)

46. Problem Figure
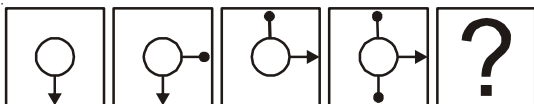
Answer Figure
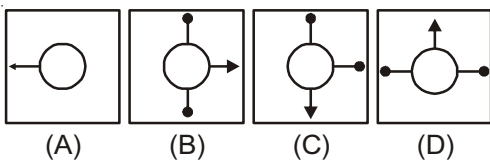
(A)   (B)   (C)   (D)

Answer (D)
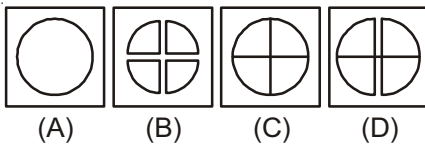
47. Problem Figure
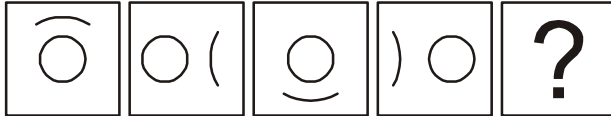
Answer Figure
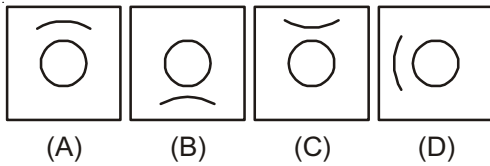
| (A) | (B) | (C) | (D) |

Answer (A)

Direction : Each of the following equestion (48) to (50) consists of two sets of figure namely 1, 2, 3 & 4, called problem figure while fig. (A), (B), (C) & (D) constitute the Answer Set. There is a definite relation between figure 1 & 2. Establish a similar relation between Figures 3 & 4 by choosing suitable fig. 4 from the Answer set.

48. Problem Figure

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

Answer Figure

| (A) | (B) | (C) | (D) |
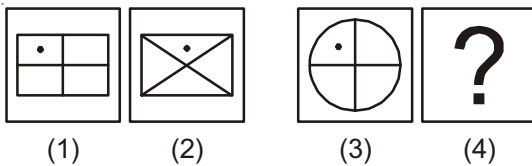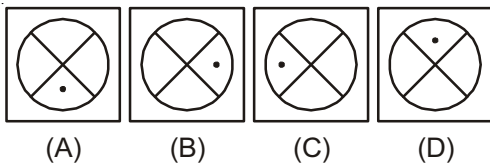
Answer (D)

49. Problem Figure

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

Answer figure

(A)   (B)   (C)   (D)
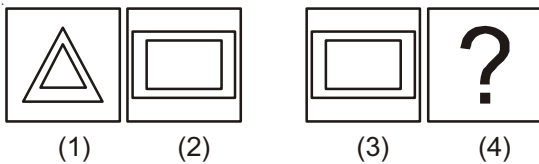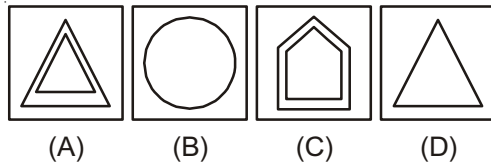
Answer (C)

50. Problem figure

1   2   3   4

Answer Figure

(A)   (B)   (C)   (D)
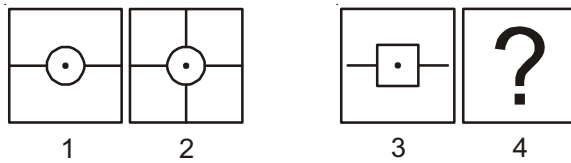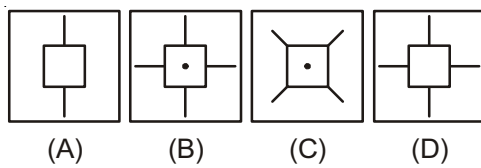
Answer (B)

PART-II : LANGUAGE TEST

Directions (Q.1 to Q.6) :

Choose the correct word from the options to fill in the blanks.

1. The fuel .... of Mr. Mohan's car is very high.

    (A) consumption   (B) usage

    (C) rate   (D) expenditure

Answer (A)

2. I am working hard .... the examination

    (A) to get on   (B) to get through

    (C) to get up   (D) to get over

Answer (B)

3. Water is precious, do not .... it.

    (A) waste   (B) waist

    (C) west   (D) vest

Answer (A)

4. She is the girl .... book I borrowed for reading.

    (A) who   (B) whose

    (C) whom   (D) which

Answer (B)

5. God helps those who help.............

    (A) itself   (B) themselves

    (C) himself   (D) herself

Answer (B)

6. Reading good books will .... your outlook.

    (A) Broad   (B) Broaden

    (C) Weaken   (D) Vast

Answer (B)

Directions (Q.7 to Q.10) :

Choose the correct meaning of the phrases/idioms given below.

7. At one's fingertips

    (A) to take revenge   (B) matter of shame

    (C) complete knowledge (D) None

Answer (C)

8. A hard nut to crack:

    (A) expensive thing   (B) a difficult problem

    (C) a foolish resarch   (D) an easy question

Answer (B)

9. At the spur of the moment:

    (A) without delay   (B) difficult moment

    (C) great moment   (D) None of the above

Answer (A)

10. Mrs. Roy keeps an open house on Saturday evening parties. You will find all kinds of people there.

    An open house means-

    (A) Welcomes all members.

    (B) Welcomes a select group of people

    (C) Keeps the doors of the house open.

    (D) Keeps the gates open for a few persons.

Answer (A)

Directions (Q.11 to Q.14) :

Select the word that is opposite in meaning to the word given:

11. Numerous:

    (A) abundant   (B) manifold

    (C) scanty   (D) Comprising

Answer (C)

12. Vibrant:

    (A) vivacious   (B) sparkling

    (C) dull   (D) spirited

Answer (C)

13. Evil:

    (A) vicious   (B) corrupt

    (C) wicked   (D) virtuous

Answer (D)

14. Zenith:

    (A) culmination   (B) summit

    (C) pinnacle   (D) bottom

Answer (D)

Directions (Q.15 to Q.18) :

Select the most appropriate option to fill the blanks from the given alternatives.

15. Shimla is ....than that of Jalandhar.

    (A) colder   (B) coldest

    (C) cold   (D) as cold as

Answer (A)

16. Hardly had they reached the school .... the bell rang.

    (A) when   (B) than

    (C) until   (D) behind

Answer (A)

17. The police are looking for a .... of thieves.

    (A) troop   (B) gang

    (C) crew   (D) party

Answer (B)

18. The duck .... and then dived into the water.

    (A) bellowed   (B) grunted

    (C) quacked   (D) barked

Answer (A)

Directions (Q.19 to Q.25) :

The following passage contains <u>numbered</u> blank spaces. Fill in the blanks with the appropriate word given in each space.

He was happy and contented .... (19) he was poor. He never showed signs of frustration .... (20) his friends who were rich were always in distress. .... (21) of the problems he had to face, he remained calm and composed and so the people liked his company. .... (22) He went he spread happiness. I don't know ....(23) he could be so happy ....(24) he had nothing but few comforts in life. He was hard working..........(25) that was the only secret of his success in life.

19. (A) though (B) Although
    (C) when (D) for

Answer (A)

20. (A) While (B) When
    (C) though (D) because

Answer (A)

21. (A) Inspite of (B) Instead of
    (C) Even though (D) Even

Answer (A)

22. (A) Wherever (B) Whenever
    (C) Whichever (D) Whatever

Answer (A)

23. (A) how (B) when
    (C) why (D) what

Answer (A)

24. (A) When (B) while
    (C) yet (D) what

Answer (B)

25. (A) and (B) but
    (C) As far as (D) So far as

Answer (A)

Directions (Q.26 to Q.28) :

Read the following passage and answer the questions given after it.

A large number of people are consuming packaged food because it has become a matter of convenience, pleases the taste buds and fills your stomach. Also it is important to note the quality of packaging used for these products and whether additives are used or not to increase their shelf-life. For example, dairy products like milk that comes in tetra packs comes without additive and due to no contact with air, it remains fresh for a long period of time. The ready to eat food products are specially laden with preservatives and have excess oil in form of transfats, which can be a threat to health. The problem with canned or processed food is that they have excessive salt or sugar. Cooking at home is always a healthy option over junk food. What one needs to do is a little bit of time management and planning. We should stick to those food items that we are genetically used to such as Indian food cooked by traditional methods.

26. Why are more and more people consuming packed food? It is because:

   (A) it is cheap.

   (B) it is convenient, tasty and fulfilling.

   (C) it is time consuming.

   (D) it is good for health.

Answer (B)

27. Ready to eat products are laden with:

   (A) Proteins   (B) Vitamins

   (C) Minerals   (D) Preservatives

Answer (D)

28. Why do you think cooking at home is a healthier option? It is because ....

   (A) It does not contain preservatives or excess of salt or sugar.

   (B) It helps in time management and planning.

   (C) It pleases the taste buds and fills the stomach.

   (D) It is genetically good.

Answer (A)

Directions (Q.29 to Q.33) :

Read the following passage and answer the question given after it:

What needs to be set right in our approach to work. It is a common sight in our country of empolyees repoting for duty on time and at the same time doing little work. If an assessment is made of time, they spent in gossiping, drinking tea, eating "pan" (paan) and smoking cigarettes, it will be shocking to know that the time devoted to actual work is negligible. The problem is the standard which the leadership in adminstration sets for the

staff. Forget the minsters because they mix pilitics and administration. What do top bureaucrats do? What do the below down officials do? The administration set up remains weak mainly because the employees do not have the right example to follow and they are more concerned about being in the good books of the bosses rather than doing work.

29. The employees in our country:

   (A) are quite punctual but not duty conscious.

   (B) are not punctual, but somehow manage to complete their work.

   (C) are somewhat lazy but good natured.

   (D) are not very highly qualified.

Answer (A)

30. The word 'assessment' means:

   (A) enquiry   (B) report

   (C) evaluation   (D) summary

Answer (C)

31. The leadership in adminstration

   (A) sets a fine example to the employees.

   (B) is of a reasonably high standard.

   (C) is composed of idealists

   (D) is of a very poor standard.

Answer (D)

32.	According to the writer, the administration in India:

(A) is by and large effective

(B) is very strict and firm

(C) is affected by red tape

(D) is more or less ineffective

Answer (C)

33.	The central idea of the passage could be best expressed by the following:

(A) The employees outlook towards work is justified.

(B) The employees must change their outlook towards work.

(C) The employees would never change their work culture.

(D) The employer-employee relationship is far from healthy.

Answer (B)

Directions (Q.34 to Q.40) :

Choose the word which best fills the blank from the four options given below:

34.	Please .... your votes in favour of me.

(A) Caste			(B) Cost

(C) Cast			(D) Cancel

Answer (C)

35.	Sachin Tendulkar .... an impossible win for India.

(A) brought off		(B) brought before

(C) brought up		(D) brought for

Answer (A)

36.	Shakespeare .... Macbeth.

(A) read   (B) wrote

(C) write   (D) written

Answer (B)

37. The car driver was arrested for rough driving and his license was:

(A) impounded   (B) confiscate

(C) suspended   (D) penalised

Answer (C)

38. The police .... no stone unturned to trace the culprits.

(A) leave   (B) left

(C) live   (D) None of the above

Answer (B)

39. AIDS is not a disease that can be through the air or by insects.

(A) circulated   (B) transferred

(C) disseminated   (D) transitted

Answer (D)

40. Had you told me of the short cuts earlier, I ...... the contest.

(A) will have won   (B) would have won

(C) would be won   (D) will be won

Answer (B)

41. Either Ram or Shyam .... lost his book.

(A) has   (B) have

(C) had   (D) have been

Answer (A)

Directions (Q.42 & Q.43) :

Choose the correct word to substitute the phrasal verbs underlined.

42. They decided to do away with the old system:

(A) remove   (B) repair

(C) prepare   (D) reject

Answer (A)

43. I am not able <u>to make out</u> anything from your speech :

 (A) conclude   (B) understand

 (C) create   (D) prepare

Answer (A)

Directions (Q.44 to Q.50) :

Select the most appropriate option to fill in the blanks from the given alternatives.

44. There is going to be a beauty .... in our school.

 (A) contest   (B) consent

 (C) conquest   (D) fare

Answer (A)

45. Extraordinary expenses .... be limited by the worth of an occassion.

 (A) must   (B) dare

 (C) are   (D) is

Answer (A)

46. One could see .... her resemblance to her brothers.

 (A) at a glance (B) a glimpse of

 (C) in a glance (D) off

Answer (B)

47. Disaster means:

 (A) a pleasing incident (B) distantly situated

 (C) which brings happiness

 (D) an unexpected event that causes loss of lives or wealth

Answer (D)

48. Paddy fields are:

    (A) fields where rice is grown   (B) big fields

    (C) fields where wheat is grown

    (D) fertile and big fields

Answer (A)

49. If that kind of thing .... on peacefully, there is no harm in it.

    (A) go   (B) goes

    (C) went   (D) gone

Answer (B)

50. He .... just like an angel.

    (A) looks   (B) look

    (C) seemed   (D) pretended

Answer (A)

SAT:- PART-III: SCHOLASTIC APTITUDE TEST

1. A car covers 30 km at a uniform speed of 60 km/hr. and the next 30 km at a uniform speed of 40 km/hr. The total time taken is:

   (A) 30 min
   (B) 45 min
   (C) 75 min
   (D) 120 min

Answer (C)

Sol. $\overline{V} = \dfrac{2V_1V_2}{V_1 + V_2} = \dfrac{\text{Total distance}}{\text{Total time}}$

$= \dfrac{2 \times 60 \times 40}{100} = \dfrac{60}{t}$
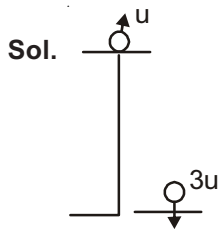
$\dfrac{8}{10} = \dfrac{1}{t}$

$t = \dfrac{10}{8}\text{hr.} = 75\,\text{min.}$

2. A stone is thrown upwards with a speed "u" from the tip of a tower. It reached the ground with a velocity "3u". The height of the tower is:

   (A) $\dfrac{u^2}{g}$
   (B) $\dfrac{2u^2}{g}$
   (C) $\dfrac{3u^2}{g}$
   (D) $\dfrac{4u^2}{g}$

Answer (D)

Sol.

$V^2 = u^2 + 2gs$

$9u^2 - u^2 = 2gh$

$h = \dfrac{4u^2}{g}$

3. When the speed of a particle is doubled, the ratio of its kinetic energy to its momentum :

(A) remains the same   (B) gets doubled

(C) becomes half   (D) becomes four times

Answer (B)

Sol. $x_2 = \dfrac{k_2}{p_2} = \dfrac{1}{m_2 v_2} \times \dfrac{1}{2} m_2 v_2^2 = \dfrac{v_2}{2}$

$x_1 = \dfrac{k_1}{p_1} = \dfrac{1}{m_1 v_1} \times \dfrac{1}{2} m v_1^2 = \dfrac{v_1}{2}$

$\dfrac{x_2}{x_1} = 2$ (If $V_2 = 2V_1$)

4. Calculate the wavelength of radio waves of frequency 10^9 Hz. The speed radio waves is 3×10^8 m/s.

(A) 60 cm   (B) 40 cm

(C) 30 cm   (D) 10 cm

Answer (C)

Sol. $V = \lambda \upsilon$

$\lambda = \dfrac{V}{\upsilon} = \dfrac{3 \times 10^8}{10^9} = 30 \ cm$

5. A force of 16 N is distributed uniformly on one surface of a cube of edge 8 cm. the pressure on this surface is :

(A) 3500 Pa   (B) 2500 Pa

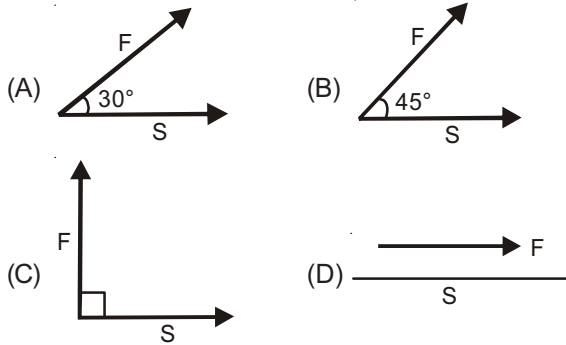(C) 4500 Pa   (D) 5500 Pa

Answer (B)

Sol. P = $\dfrac{\text{Thrust}}{\text{Area}}$

A = 8 X 8 X 10^{-4} m^2 = 64 X 10^{-4} m^2

$$P = \frac{16}{64 \times 10^{-4}} = 2500 \text{ Pa}$$

6. In which of the following cases, is the work done maximum.

(A) 30°   (B) 45°

(C)   (D)

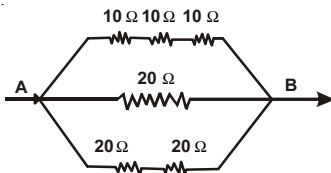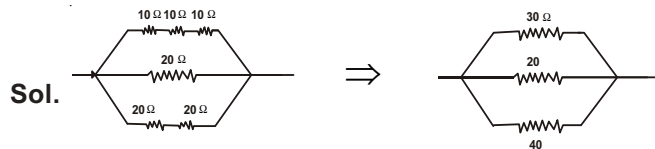**Answer (D)**

Sol. Work = $FS\cos\theta$

at $\theta = 0°$, Work done by force is maximum.

7. The total electrical resistance between the points A and B of the circuit shown in :

(A) 9.23 Ω (B) 15 Ω

(C) 30 Ω (D) 100 Ω

Answer (A)

Sol.

$$\frac{1}{R_{eq}} = \frac{1}{30} + \frac{1}{40} + \frac{1}{20}$$

$$R_{eq} = 9.23\Omega$$

8. Two wires of same material have lengths L and 2L and cross-sectional areas 4A and A respectively. The ratio of their resistances would be:

(A) 1 : 1   (B) 1 : 8

(C) 8 : 1   (D) 1 : 2

Answer (B)

Sol. $\dfrac{R_1}{R_2} = \dfrac{L}{2L} \times \dfrac{A}{4A} = \dfrac{1}{8}$

9. Wire of resistance R is stretched to thrice of its original length, what is its new resistance?

(A) 9R   (B) $\dfrac{R}{9}$

(C) 3R   (D) R/3

Answer (A)

Sol. $\dfrac{R_1}{R_2} = \left(\dfrac{l_1}{l_2}\right)^2$

$R_2 = 9R$

10. Galaxy in which we live is :

(A) Milky way   (B) radio galaxy

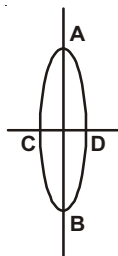(C) circular galaxy   (D) irregular galaxy

Answer (A)

11. Vision problem occurring in old age is known as :

(A) Myopia   (B) Presbyopia

(C) Hypermetropia   (D) Anepia

Answer (B)

12. The focal length of each half, if the symmetrical lens of focal length f cut along AB :

(A) f

(B) $\left(\dfrac{1}{2}\right)f$

(C) $2f$

(D) Zero

Answer (C)

Sol. Lens maker formula

$$f = \frac{R}{2(\mu-1)}$$

$$f' = \frac{R}{(\mu-1)}$$

$f' = 2f$

13. Two bodies of unequal masses posses the same momentum. The K.E. of the heavier mass will be .... the K.E. of the lighter mass.

(A) same as

(B) greater than

(C) less than

(D) much greater than

Answer (C)

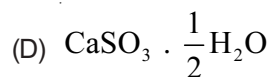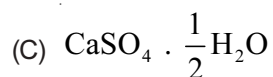**Sol.** $KE \propto \dfrac{1}{m}$

14. Electron was discovered by :

(A) J. J. Thomson

(B) Chadwick

(C) E. Goldstein

(D) Rutherford

Answer (A)

Sol. Electron was discovered by J. J. Thomson.

15. The chemical formula of Gypsum is :

(A) $CaCO_3 . 5H_2O$

(B) $CaSO_4 . 2H_2O$

(C) $CaSO_4 \cdot \dfrac{1}{2}H_2O$

(D) $CaSO_3 \cdot \dfrac{1}{2}H_2O$

Answer (B)

Sol. Gypsum $\rightarrow CaSO_4 \cdot 2H_2O$ (Fact)

16. The process in which the red hot cast iron is cooled immediately in cold water is known as :

   (A) Tempering   (B) Quenching

   (C) Annealing   (D) Bleaching

Answer (B)

Sol. The process in which Red hot cast Iron is cooled immediately in cold water is known as Quenching (fact)

17. Electronic configuration of Na^+ is :

   (A) 2, 8, 1   (B) 2, 8, 8

   (C) 2, 8   (D) 2, 8, 8, 1

Answer (C)

Sol. 2, 8 (By electronic configuration Rule = $2n^2$)

18. Valency of Sulphur atom in SO_2 is :

   (A) 3   (B) 2   (C) 4   (D) 6

Answer (C)

Sol. (0 = S = 0)

19. Write IUPAC name of :

$$CH_3-\underset{\underset{CH_3}{|}}{CH}-CH_3$$
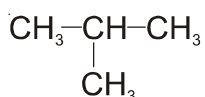
   (A) 2, 2 dimethyl propane

   (B) 2, methyl butane

   (C) 2, 2 dimethyl ethane   (D) 2, methyl propane

Answer (D)

Sol. IUPAC name of :

$$\overset{1}{C}H_3-\underset{\underset{CH_3}{|}}{\overset{2}{C}H}-\overset{3}{C}H_3$$
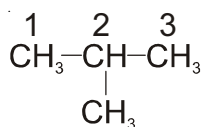
2-Methyl propane

20. Stainless steel contains :

(A) Fe, Ni, Cr   (B) Fe, Ni, Sn

(C) Fe, C, S   (D) Fe, P, Cr

Answer (A)

Sol. Stainless steel contain

Fe, Ni, Cr (fact)

21. If there are 12 neutrons in an atom and its atomic number is 11. Then how many electrons are present in it :

(A) 23   (B) 12

(C) 10   (D) 11

Answer (D)

Sol. Atomic number (Z) = No. of electrons = No. of Protons

Z = 11 = No. of electrons.

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22. What is the electronic configuration of elements of IIIrd group:

(A) $1s^2, 2s^2, 2p^3$

(B) $1s^2, 2s^2 2p^6, 3s^2, 3p^1$

(C) $1s^2, 2s^2 2p^6$

(D) $1s^2, 2s^2 2p^6, 3s^1$

Answer (B)

Sol. Electronic configuration of elements of IIIrd group:

$$1s^2, 2s^2, 2p^6, 3s^2, 3p^1$$

(Group No = No. of Valence electrons)

23. The gas produced on addition of dilute Sulphuric acid on powdered zinc is :

(A) SO_2 (B) S

(C) H_2 (D) O_2

Answer (C)

Sol. Zinc reacts with dilute sulphuric to form acid and form zinc sulphate along with the evaluation of Hydrogen gas (H_2)

$$Zn + H_2SO_4(dil) \rightarrow ZnSO_4 + H_2(g) \uparrow$$
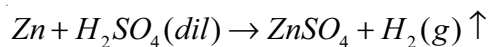
H_2(gas)

24. Name of functional group $(-\overset{\overset{O}{\|}}{C}-OH)$

    (A) Aldehyde   (B) Ketone

    (C) Alcohol   (D) Carboxylic acid

Answer (D)

Sol. $(-\overset{\overset{O}{\|}}{C}-OH)$ Carboxylic functional group.

25. Type of bond present between carbon-carbon atoms in Ethene is :

    (A) Single covalent bond (B) Double covalent bond

    (C) Triple covalent bond (D) Electrovalent bond

Answer (B)

Sol. Ethene $CH_2 = CH_2$
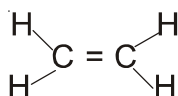
Double covalent bonds

26. Structure of PVC is :

    (A) $[CH_2-CH]_n$ (B) $(CH_2-CH_2)_n$
    　　　　$|$
    　　　　Cl

    (C) $(CF_2-CF_2)_n$ (D) $(CH_2-CH)_n$
    　　　　　　　　　　　　　　　　$|$
    　　　　　　　　　　　　　　　　CH_3

Answer (A)

Sol. Structure of PVC is $[CH_2-CH]_n$ Fact
$\quad\quad\quad\quad\quad\quad\quad\quad\quad |$
$\quad\quad\quad\quad\quad\quad\quad\quad\quad Cl$

27. Who proposed the term Ecosystem :

(A) A. G. Tensley
(B) E. P. Odum
(C) Carl Mobius
(D) Earnst Haeckel

Answer (A)

Sol. Fact

28. In the process of Photosynthesis, th source of Oxygen is :

(A) CO_2
(B) H_2O
(C) $C_6H_{12}O_6$
(D) None of these

Answer (B)

Sol. Photolysis of water takes place during photosynthesis.

29. Which component is formed by plants in the ecosystem :

(A) Decomposer
(B) Consumer
(C) Producer
(D) All of the above

Answer (C)

Sol. Because they are present on Ist trophic level of ecological pyramid.

30. Which of the following is a plant hormone :

(A) Insulin
(B) Cytokinin
(C) Thyroxin
(D) Oestrogen

Answer (B)

Sol. Cytokinin is a plant hormone and rest all are animal hormones.

31. Power house of cell is known as :

(A) Golgi bodies
(B) Mitochondria
(C) Ribosome
(D) Lysosome

Answer (B)

Sol. Because Aerobic Respiration takes place in mitochondria and energy is released in the form of ATP.

32. F_2 ratio in Dihybird cross is :

(A) 1 : 2 : 1　　　　(B) 7 : 3 : 6

(C) 9 : 3 : 3 : 1　　(D) 3 : 1

Answer (C)

Sol. F_2 generation - Round and yellow　　9

Round and green　　3

Wrinkled and yellow　3

Wrinkled and green　1

33. Which organ is known as 'Blood bank' :

(A) Heart　　　　(B) Liver

(C) Spleen　　　(D) Kidney

Answer (C)

Sol. Spleen is the organ responsible for purifying blood as well as storing blood cells. It is known as the blood bank.

34. Which blood group is called "Universal donor" :

(A) A　　　　(B) B

(C) AB　　　(D) O

Answer (D)

Sol. Because it does not have any antigen on the surface of RBC's.

35. Oxygen in our blood is transported by a Protein, named :

(A) Keratin　　　(B) Collagen

(C) Haemoglobin　(D) Myoglobin

Answer (C)

Sol. Haemoglobin is respiratory pigment which involves in the transportation of Oxygen.

36. The end product of glycolysis is :

(A) Phosphoric acid　(B) Malic acid

(C) Pyruvic acid　　(D) Fumaric acid

Answer (C)

Sol. In the cytoplasm, one molecule of glucose convert into 2 molecule of pyruvic acid during glycolysis.

37. Which of the following gases related with acid rain:

(A) NO_2 & CO_2 (B) CH_4 & SO_2

(C) CO_2 & SO_2 (D) SO_2 & NO_2

Answer (D)

Sol. Oxides of sulphur and oxides of nitrogen dissolve in rain and forms acid .

38. The Grana & Stroma are the parts of which cell organelles :

(A) Mitochondria   (B) Chloroplast

(C) Ribosome   (D) Golgi bodies

Answer (B)

39. Reproduction in Bryophyllum takes place by :

(A) Root   (B) Leaf

(C) Stem   (D) None of these

Answer (B)

Sol. Leaf of Bryophyllum have buds which involves in vegetative reproduction.

40. Botanical name of Tulsi is :

(A) Saraca Indica   (B) Ficus benghalensis

(C) Phyllanthus emblica   (D) Ocimum sanctum

Answer (D)

41. Sachi Stupa is related to which religion?

(A) Jain   (B) Buddhism

(C) Bhagvat   (D) Shakt

Answer (B)

42. Mohanjodaro (Saraswati Sindhu) Civilization is discovered by:

(A) Rai Bahadur Sahni   (B) Rakhal Das Banerjee

(C) Ram Choudhary   (D) V.D. Mahajan

Answer (B)

43. Buddhism is started by:

(A) Dr. B.R. Ambedkar   (B) Mahaveer Swami

(C) Mahatma Budh   (D) Samrat Ashok

Answer (C)

44. Samrat Ashok was ruler of:

    (A) Bhopal   (B) Pataliputra
    (C) Delhi   (D) Vidisha

Answer (B)

45. Most powerful ruler of Gupta dynasty was:

    (A) Shree Gupt   (B) Kumar Gupt
    (C) Skand Gupt   (D) Samudra Gupt

Answer (D)

46. Who was the founder of the kingdom of Vijay Nagar?

    (A) Harihar and Bukka   (B) Krishnadev Roy
    (C) Dev Roy II   (D) Harihar II

Answer (A)

47. Mehrauli Situated Kutubminar of Delhi is constructed by:

    (A) Shahajahan   (B) Aaram Shah
    (C) Kutubuddin Ebak (D) Babar

Answer (C)

48. Which Sultan is known as Mad (Sanki) Sultan in history:

    (A) Allauddin Khilji   (B) Balban
    (C) Muhammad Tuglak   (D) Ferozshah Tuglak

Answer (C)

49. Tajmahal is situated at:

    (A) Chattarpur   (B) Patna
    (C) Agra   (D) Mumbai

Answer (C)

50. Shivaji's mother name was

   (A) Jijabai   (B) Baijabai

   (C) Chandbiwi   (D) Tarabai

Answer (A)

51. Founder of Azad Hind Fauz was:

   (A) Pandit Jawahar Lal Nehru

   (B) Mohan Das Karamchand Gandhi

   (C) Subhash Chandra Bose

   (D) Sir Saiyad Ahmed Khan

Answer (C)

52. Chandrashekhar Azad was born at:

   (A) Madhya Pradesh   (B) Bihar

   (C) Delhi   (D) Bengal

Answer (A)

53. Quit India Movement is started by:

   (A) Indira Gandhi

   (B) Ballabh Bhai Patel

   (C) D.P. Mishra

   (D) Mohan Das Karamchand Gandhi

Answer (D)

54. Rashtriya Swayam Sewak Sangh was established in:

   (A) Vijaydashmi-1925 A.D.

   (B) Vijayadashmi - 1930 A.D.

   (C) Deepawali - 1942 A.D.

   (D) Deepawali - 1947 A.D.

Answer (A)

55. Founder of Rashtriya Swayam Sewak Sangh was

   (A) Guru Golwalkar

   (B) Keshav Baliram hegdewar

   (C) Lala Lajpat Rai

   (D) Atal Bihari Vajpayee

Answer (B)

56. Coal, Petrol are the type of resources:
    (A) Non Renewable resources
    (B) Renewable resources
    (C) Frequently used resources
    (D) Eternal Natural resources

Answer (A)

57. Why red soil has red colour?
    (A) Because it contains phosphoric acid
    (B) Because it contains Humus
    (C) Because it contains Nitrogen
    (D) Because it contains Iron

Answer (D)

58. The name of operation flood is known:
    (A) Yellow revolution   (B) Blue revolution
    (C) White revolution   (D) Pink revolution

Answer (C)

59. Which is not a variety of coal?
    (A) Anthracite   (B) Bituminous
    (C) Lemonite   (D) Lignite

Answer (C)

60. Which is the most cheapest means of transport:
    (A) Water transport   (B) Air transport
    (C) Rail transport   (D) Road transport

Answer (A)

61. What is Knot?
    (A) Unit of measuring wind velocity
    (B) Unit of measuring air pressure
    (C) Unit of measuring temperature
    (D) Condition of sky

Answer (A)

62. Which crop is mostly grown in India?
    (A) Wheat   (B) Pulses
    (C) Rice   (D) Bajra

Answer (C)

63. Which is not forest based Industry:

    (A) Paper Industry   (B) Wood Industry

    (C) Rubber Industry   (D) Sugar Industry

Answer (D)

64. Bhilai iron and steel industry situated in which state of India:

    (A) Chattisgarh   (B) Karnatak

    (C) West Bengal   (D) Odisha

Answer (A)

65. Weather maps are published in India from:

    (A) Mumbai   (B) Pune

    (C) Delhi   (D) Dehradun

Answer (B)

66. Which type of disaster in Bhopal gas tragedy:

    (A) Natural disaster   (B) Industrial disaster

    (C) Chemical disaster   (D) All of the above

Answer (B)

67. In which state in India Tuticorin port is situated?

    (A) Tamilnadu   (B) Karnataka

    (C) Andhra Pradesh   (D) Kerala

Answer (A)

68. Tsunami is:

    (A) Cyclone   (B) Anticyclone

    (C) High Oceanic waves (D) All of the above

Answer (C)

69. Which country is biggest contributor of trade in India:

    (A) United State of America

    (B) United Kingdom

    (C) Belgium

    (D) Germany

Answer (A)

70. To all those customer who do not have computers or internet to them they are provided telecommunication through:

(A) Vyaparik Channel   (B) Speed Post

(C) e-Post   (D) e-Bill Post

Answer (C)

71. Indian National Congress was formed in the year:

(A) 1885   (B) 1900

(C) 1920   (D) 1947

Answer (A)

72. Who was the president of the drafting committee?

(A) Rajendra Prasad   (B) Ambedkar

(C) Gandhi Ji   (D) Nehru Ji

Answer (B)

73. Who was the first president of Indian National congress?

(A) A.O. Hume

(B) Surendranath Banerjee

(C) Wyomesh Chandra banerjee

(D) Mahatma Gandhi

Answer (C)

74. Who safeguards the fundamental rights?

(A) Prime Minister   (B) President

(C) Parliament   (D) Supreme Court

Answer (D)

75. What is the minimum age to become a member of Legislative Assembly?

(A) 21 years   (B) 25 years

(C) 30 years   (D) 35 years

Answer (B)

76. Per capita income refers to which of the following

(A) Whole income   (B) Average income

(C) National income   (D) Net income

Answer (B)

77. Which of the following is the criteria of measurement of economic development?

(A) National Income (B) Economic Welfare

(C) Social Welfare (D) All the above

Answer (A)

78. 'Education and Health' belong to which of the following?

(A) Social infrastructure

(B) Economic infrastructure

(C) Physical infrastructure

(D) All the above

Answer (A)

79. In which of the following year India has adopted the 'New Economic Policy'?

(A) 1990

(B) 1991

(C) 1992

(D) 1993

Answer (B)

80. Multi-national Company Means:

(A) A company whose work relates to production

(B) A company whose work relates to sale

(C) A company whose business is spread over several countries

(D) A company whose shareholders are spread in whole world

Answer (C)

81. The Value of $\dfrac{\cos^2\theta + \tan^2\theta - 1}{\sin^2\theta}$ is :

(A) $\sin^2\theta$ (B) $\cos^2\theta$

(C) $\cot^2\theta$ (D) $\tan^2\theta$

Answer (D)

Sol. $\dfrac{\tan^2\theta - \sin^2\theta}{\sin^2\theta} = \dfrac{\sin^2\theta}{\sin^2\theta}\left[\dfrac{1}{\cos^2\theta} - 1\right] = \tan^2\theta$

82. Value of $\dfrac{\cos^2 20° + \cos^2 70°}{\sin^2 59° + \sin^2 31°}$ is :

    (A) 0   (B) 1

    (C) $\dfrac{1}{2}$ (D) -1

Answer (B)

Sol. $\dfrac{\sin^2 70° + \cos^2 70°}{\sin^2 59° + \cos^2 59°} = \dfrac{1}{1} = 1$

83. Which value of m, equation

    2x   my−+4   0=,

    3x   7y−−10 =0

    has no solution ?

    (A) $\dfrac{2}{3}$

    (B) $\dfrac{4}{10}$

    (C) $-\dfrac{14}{3}$

    (D) $\dfrac{14}{3}$

Answer (C)

Sol. For no solution

    $\dfrac{2}{3} = \dfrac{m}{-7} \neq \dfrac{-4}{-10} \Rightarrow m = \dfrac{-14}{3}$

84. Zeroes of the polynomial $x^3 - 4x^2 - 7x + 10$ are :

    (A) 1, 5, -2   (B) 1, -5, 2

    (C) -1, 5, 2   (D) 1, -5, -2

Answer (A)

Sol. At x =1, 5, -2, value of the polynomial becomes zero.

85. Which rational expression should be added to

$$\frac{x - x^2 + 2}{x(x^2 - 1)} \text{ to get } \frac{x + 1}{x^2 - 1}?$$

(A) $\dfrac{x}{2}$

(B) $\dfrac{2}{x}$

(C) $2x$

(D) x^2

Answer (B)

Sol. Let $\dfrac{x - x^2 + 2}{x(x^2 - 1)} + K = \dfrac{x + 1}{x^2 - 1}$

$K = \dfrac{x + 1}{x^2 - 1} - \dfrac{x - x^2 + 2}{x(x^2 - 1)}$

$= \dfrac{x^2 + x - x + x^2 - 2}{x(x^2 - 1)}$

$= \dfrac{2(x^2 - 1)}{x(x^2 - 1)} = \dfrac{2}{x}$

86. Length of Chord which is at a distance of 3 cm. from the centre of circle of radius 5 cm. is :

(A) 4 cm.

(B) 6 cm.

(C) 8 cm.

(D) 10 cm.

Answer (C)

Sol. In $\triangle$AOB,

by Pythagoras theorem

AB = 4 $\therefore$ AC = 2AB

$\Rightarrow$ AC = 8

87. The height of a hollow cylinder is 14 cm. If external diameter is 16 cm and total curved surface area of the hollow cylinder is 1320 sq. cm., then its internal diameter is :

(A) 14 cm.

(B) 16 cm.

(C) 6 cm.

(D) 8 cm.

Answer (A)

Sol. h = 14 cm. R = 8 cm.

T.C.S.A. = $2\pi h(R+r)$

$1320 = 2x\dfrac{22}{7}x14(8+r) \Rightarrow r = 7$
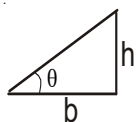
$\therefore$ Diameter = 2r = 14 cm

88. The angle of elevation of the sun when the length of the shadow of a tower is equal to its height is :

(A) 30°   (B) 45°

(C) 60°   (D) 90°

Answer (B)

Sol. $\tan\theta = \dfrac{h}{b}$

$\Rightarrow \tan\theta = 1 \ (\because h = b)$

$\Rightarrow \theta = 45^0$

89. The value of $\sin\theta\ (\operatorname{cosec}\theta - \sin\theta)$ is :

    (A) $\sin^2\theta$ (B) $\tan^2\theta$

    (C) $\cot^2\theta$ (D) $\cos^2\theta$

Answer (D)

Sol. $\sin\theta(\dfrac{1}{\sin\theta} - \sin\theta) = \sin\theta x \dfrac{1 - \sin^2\theta}{\sin\theta}$

    $= \cos^2\theta$

90. Two coin are tossed simultaneously, then the probability of getting head on the coin and tail on another coin is :

    (A) 2   (B) 1/2

    (C) 4   (D) 1/4

Answer (B)

Sol. Total number of cases = 4

    Favourable number of cases = 2

    $\therefore$ Required Probability = $\dfrac{2}{4} = \dfrac{1}{2}$

91. Sita and Gita are friends, what is the probability that both will have different birthdays (ignoring a leap year)

    (A) $\dfrac{1}{365}$ (B) $\dfrac{1}{364}$

    (C) $\dfrac{364}{365}$ (D) None of these

Answer (C)

Sol. Total number of cases = 365

    Favourable number of cases = 364

    $\therefore$ Required Probability = $\dfrac{364}{365}$

92. Five years ago age of Sunita was thrice the age of Vineeta. After 10 years Sunita's age will be twice the age of Vinita, what is the present age of Sunita ?

(A) 50 years   (B) 20 years

(C) 70 years   (D) 30 years

Answer (A)

Sol. Let present age of Sunita = x

and present age of Vineeta = y

According to question,

$x - 5 = 3(y - 5) \Rightarrow x + 10 = 3y$ ...(1)

and $x + 10 = 2(y + 10) \Rightarrow 3y = 4(y + 10)$

$\Rightarrow y = 20$ ∴ from(1) , x=50 years

93. How many two-digit numbers are divisible by 2 :

(A) 30   (B) 40

(C) 45   (D) 50

Answer (C)

Sol. 10, 12, 14, ..., 98

2x5, 2x6, 2x7, ..., 2x49

∴ Total number = (49-5)+1=45

94. If A and B are two non empty sets then $(A \cup B)^c =$

(A) $A^c \cup B^c$ (B) $A^c \cap B^c$

(C) $A \cup B^c$ (D) $A^c \cap B$

Answer (B)

Sol. $(A \cup B)^c = A^c \cap B^c$

95. How many spheres of iron having radius 1 cm. can be made by melting a sphere of iron having 8 cm. radius?

(A) 64   (B) 128

(C) 356   (D) 512

Answer (D)

Sol. $\frac{4}{3} \pi \times 1^3 \times n = \frac{4}{3} \pi \times 8^3$

$\Rightarrow n = 512$

96. Value of $\left[\dfrac{\sin 49^{O}}{\cos 41^{O}} + \dfrac{\cos 41^{O}}{\sin 49^{O}}\right]^{2}$ is :

    (A) 2   (B) 4

    (C) 1   (D) None of these

Answer (B)

Sol. $\left[1+1\right]^{2} = 4$

97. A quadratic equation $ax^{2} + bx + c = 0$ has no real roots, if :

    (A) $b^{2} - 4ac = 0$ (B) $b^{2} > 4ac$

    (C) $b^{2} < 4ac$ (D) $b^{2} + 4ac = 0$

Answer (C)

Sol. $b^{2} - 4ac < 0 \Rightarrow b^{2} < 4ac$

98. The sum of pair of opposite angles of a cyclic quadrilateral is :

    (A) 90° (B) 180°

    (C) 270° (D) 360°

Answer (B)

99. The sum of first 20 terms of AP : 8, 3, -2, ... is:

    (A) -790 (B) -970

    (C) -979 (D) -779

Answer (A)

Sol. $\dfrac{20}{2}\left[2 \times 8 + 19 \times (-5)\right] = -790$

100. The diameter of a cycle wheel is 1.6 m. The wheel revolves 21 times in one minutes, then how much distance will the cycle cover in one hour :

    (A) 3.636 km.   (B) 6.336 km.

    (C) 6.633 km.   (D) 2.640 km.

Answer (B)

Sol. Distance covered = $60 \times 21 \times 2 \times \dfrac{22}{7} \times 0.8$

      =6.336 km.