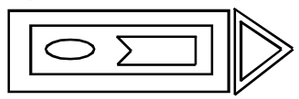
25th MVI
(MATHEMATICS)

Time Allowed 1 hour | Maximum Marks : 100

Read the following instructions carefully before you begin to answer the questions.

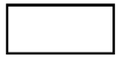
1. This booklet contains 50 questions in all.
2. All questions are compulsory and each question carries 2 marks.
3. Before you start to answer the questions you must check up this booklet and ensure that it contains all the pages6 (Six) and see that no page is missing or repeated. If you find any defect in this Booklet, you must replace it immediately.
4. There will **NOT** be any negative marking for wrong answers.
5. You are required to fill the information on the answer sheet which you will get in the examination hall by **H.B. pencil or BALL point pen.**
6. **Answer Sheet** and **Question Paper** will be supplied in examination hall. After the test is over, you should hand over the answer sheet to the invigilator before leaving the room.
7. You should write your **Name, Roll No.,** carefully on the space provided in the answer sheet. Otherwise you will be awarded **ZERO** mark.
8. If you wish to change your answer, **ERASE** completely the darkened circle by using an **ERASER** and then blacken the new circle. If not erased completely, smudges will be left on the erased circle and the question will be read as having two answer and will be ignored for giving any credit.
9. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any question.
10. You are not allowed to leave the examination hall until you are advised to do so by the invigilator.

1. What are Integers?
   (A) Set of all natural numbers and their negative including zero.
   (B) Set of all natural numbers and zero.
   (C) Set of all natural numbers and their negative.
   (D) Set of whole numbers
2. Assume that given figure as world of integers. The following description is

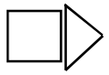


signifies zero,

signifies natural number



signifies whole number



shows integers

What does  signify?

   (A) fraction
   (B) Any random number
   (C) negative numer
   (D) Non-integer

3. 26° C above 0°C and 13°C below 0°C temperature can be represented as
   (A) -26°Cand +13°C
   (B) +26°Cand +13°C
   (C) +26°Cand -13°C
   (D) -26°Cand -13°C
4. Consider a building with 30 stairs above ground level and 30 stairs below ground level. Considering ground level as 0, if you are standing at 21st step below ground level, how will you say it mathematically?
   (A) You are at +21st step
   (B) You are at -21st step
   (C) You are at some step which you don't know
   (D) You are at 30th step
5. If total runs scored by a batsman in a year is 1009 and this is also equal to four less than thrice the over faced in the year. If he faces 'y' overs in the whole year, then correct equation is
   (A) y-3=1009 (B) 3y-1=1009
   (C) 3y-4=1009 (D) y-4=1009
6. The number of apples Ram has is 3 less than half of the apple possessed by his friend Shyam. If Shyam has 'r' number of apples then the expression

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   (A) 3 out of 5 (B) $3\times\frac{1}{5}$
   (C) 0.35 (D) 60%
42. An isosceles triangle has a perimeter of 44 feet. The base is 18 feet long. What is the length of each equal side?
   (A) 13 feet (B) 18 feet
   (C) 22 feet (D) 26 feet
43. In $\frac{2}{3}P-2\frac{1}{2}=3\frac{1}{2}$, the value of P is :
   (A) -9 (B) +6
   (C) +9 (D) 0
44. Which of the following is not true ?
   (A) $6.6\times10^3=6600$
   (B) $33.3\times10^{-3}=0.00333$
   (C) $1000\times10^{-3}=1$
   (D) $500.3\times10^3=500300$
45. The angle formed between the hands of a clock at 6 o'clock is :
   (A) acute angle
   (B) obtuse angle
   (C) right angle
   (D) straight angle
46. Sanajaoba went to market eleven days ago. The day he went to market was Friday. What day of the week is today?
   (A) Monday (B) Tuesday
   (C) Wednesday (D) Thursday
47. Two lines are said to be parallel when they ____ at any point.
   (A) do not intersect
   (B) intersect
   (C) are perpendicular
   (D) none of these
48. A line segment PQ = 8.2cm is bisected at O, then length of PO is
   (A) 4.2 cm (B) 4cm
   (C) 4.1cm (D) 16.4cm
49. The greatest 4-digit number which when divided by 20,24 and 45 leaves a remainder of 11 in each case is :
   (A) 9999 (B) 9998
   (C) 9997 (D) 9731
50. If a number is divisible by 6 then it is divisible by :
   (A) 2 and 3 (B) 4 and 3
   (C) 3 and 9 (D) 2 and 9

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33. $x \div 12 \times y + z$ is :
(A) Monomial (B) Binomial
(C) Trinomial (D) Multinomial

34. The conditions for two ratios to be equal is :
(A) prodict of means is equal to antecedents
(B) product of extremes is equal to consequents
(C) Antecedents are equal to consequents
(D) product of means is equal to product of extremes

35. In a ΔABC, if $3\angle A = 4\angle B = 6\angle C$, then $\angle A$, $\angle B$ and $\angle C$ are
(A) $70^0, 70^0, 40^0$ (B) $80^0, 60^0, 40^0$
(C) $60^0, 60^0, 60^0$ (D) $75^0, 45^0, 60^0$

36. Share of A, B and C are _____, when `4340 is divided in $\frac{1}{2} : \frac{1}{3} : \frac{1}{5}$
(A) `2100, `1400, `840
(B) `1400, `2100, `840
(C) `840, `2100, `1400
(D) `1400, `840, `2100

37. If 12 men can do a peice of work in18 days, in how many days will 8 men complete it ?
(A) 12 days (B) 27 days
(C) 10 days (D) $\frac{16}{3}$ days

38. If `60 is divided into two parts in the ratio 2:3, then the difference between those two parts is :
(A) `10 (B) `12
(C) `5 (D) none of these

39. If A * B meas $\frac{A+B}{2}$, then $(2*4)*4$ is
(A) $\frac{7}{2}$ (B) $\frac{5}{2}$
(C) $\frac{3}{2}$ (D) $\frac{9}{2}$

40. If a cyclist travels 82 km/day. How far will he reach in 82 days ?
(A) 164km (B) 6400km
(C) 7744km (D) 6724km

41. Which of the following is not equivalent to $\frac{3}{5}$?

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for number of apples possessed by Ram is :
(A) $\frac{r}{2} + 3$ (B) $\frac{r}{2} - 3$
(C) r+3 (D) r-3

7. Which is the smallest ?
(A) 60% of 50 (B) 40% of 70
(C) 40% of 90 (D) 60% of 80

8. If 'a' and 'b' are co-prime and both are the factors of a number 'c', then.
(A) a+b will always be a factor of c
(B) a-b will always be a factor of c
(C) axb will always be a factor of c
(D) $a \div b$ will always be a factor of c

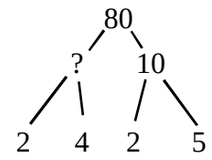
9. A stick of 132 cm is broken into four pieces in the ratio 3:5:7:9. What is the length of the smallest part of the stick?
(A) 27.5cm (B) 16.5cm
(C) 38.5cm (D) 13.5cm

10. 0.0010 $\div$ X = 0.10
Find x.
(A) 0.001 (B) 0.01
(C) 0.1 (D) 1.0

11. When one is added to the greatest four digit number, what do we get?
(A) Greatest 5-digit number
(B) Smallest 5-digit number
(C) Greatest 4-digit number
(D) Smallest 4-digit number

12. Find a whole number n such that n=100n.
(A) 100 (B) 0
(C) 1 (D) n

13. Find the missing number?



(A) 6 (B) 7
(C) 8 (D) 9

14. Which is the greatest 3-digit number exactly divisible by 8,10, 12 ?
(A) 120 (B) 360
(C) 980 (D) 960

15. The line segments forming a polygon are called:
(A) vertics (B) sides
(C) curve (D) angles

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16. The value of $(\frac{5}{7} of 1\frac{6}{13}) \div (2\frac{5}{7} \div 3\frac{1}{4})$ is

(A) $\frac{20}{169}$ (B) 1

(C) $\frac{5}{4}$ (D) $1\frac{119}{180}$

17. If axb=a^b then 6x4=?

(A) 4096 (B) 1024

(C) 2041 (D) 1296

18. The average of five numbers is 27. If one number is excluded, the average becomes 25. The excluded number is:

(A) 25 (B) 27

(C) 30 (D) 35

19. What decimal fraction is 830gm of a kilogram?

(A) 0.083 (B) 0.83

(C) 8.3 (D) 83.0

20. A number is divisible by 16 and 19. Their quotients are in the ratio :

(A) 16:19 (B) 19:16

(C) 2:3 (D) 3:2

21. Richard drives his car at 54 kmph. How much distance does he travel in 1 minute ?

(A) 900 m (B) 750 m

(C) 600 m (D) 450 m

22. Find the simple interest of `600 for 6 months at the rate of 4% p.a.

(A) `24 (B) `16

(C) `1.6 (D) `12

23. A number when divided by 3 is diminished by 20. The number is

(A) 30 (B) 45

(C) 60 (D) 75

24. How much will 10% of 102.6 be more than 50% of 8.6 ?

(A) 1.96 (B) 5.96

(C) 0.196 (D) 0.596

25. The first angle of a triangle is thrice the smallest angle and the third angle is 65^0 more than the smallest angle. Than the third angle is :

(A) 23^0 (B) 99^0

(C) 69^0 (D) 88^0

26. 'A' borrowed `40,000 from 'B' at 9% p.a. After 6 years A cleared the account by giving `50,000 with a Radio and a T.V. The sum of cost of T.V and Radio are in the ratio 3:1 to that of the remaining amount to be cleared by A. What is the price of a T.V?

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(A) `2900 (B) `8700

(C) `11,600 (D) `10,000

27. If R and S are different integers both divisible by 5, then which of the following is not necessarily true ?

(A) (R - S) is divisible by 5

(B) (R+S) is divisible by 5

(C) (R+S) is divisible by 10

(D) None of these

28. 2000 candidates have been registered for appearing in a Competitive examination. 10% of them were absent only 8% of Candidates appeared were recommended for appointment to fill up the vacancy. Find how many have got appointment.

(A) 200 (B) 180

(C) 160 (D) 144

29. Which of the following can form a triangle ?

(A) 3cm, 5cm, 9cm

(B) 4cm, 5cm, 6cm

(C) 4cm, 5cm, 10cm

(D) None of the above

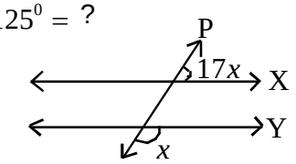
30. If A= $x+3y-4z$ and B= $3y+3x+3z$ and C= $z+2x+y$, complete the sentence.

A + B = C - ☐

(A) $4x+6y-z$ (B) $2z-2x-5y$

(C) $3z+6x+4y$ (D) $5x+4y+z$

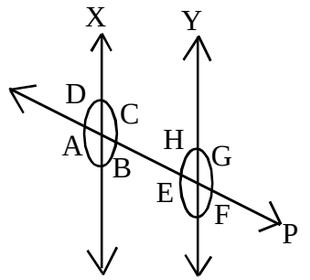
31. From the figure, find the value of $3x+125^0 =$?



(A) 155^0 (B) 135^0

(C) 100^0 (D) 190^0

32.



Find out the Allied angles.

(A) $\angle D, \angle H$ and $\angle A, \angle E$

(B) $\angle C, \angle E$ and $\angle B, \angle H$

(C) $\angle A, \angle G$ and $\angle D, \angle E$

(D) $\angle C, \angle H$ and $\angle B, \angle E$

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