Sri Raghavendra Tuition Center

Unit - 2

10th Standard

Maths

Date : 16-10-24

Reg.No. : | | | | | | |

Exam Time : 01:10 Hrs

Total Marks : 40

T

EACHER NAME: P.DEEPAK M.Sc.,M.A.,B.Ed.,DCA.,TET-1.,TET-2.,

PHONE NUMBER : 9944249262

EMAIL: darthi99ktp@gmail.com

I. Multiple Choice Question. 10 x 1 = 10

1) If the HCF of 65 and 117 is expressible in the form of 65m - 117 , then the value of m is

(a) 4 (b) 2 (c) 1 (d) 3

2) An A.P. consists of 31 terms. If its 16^{th} term is m, then the sum of all the terms of this A.P. is

(a) 16 m (b) 62 m (c) 31 m (d) $\frac{31}{2}$ m

3) The least number that is divisible by all the numbers from 1 to 10 (both inclusive) is

(a) 2025 (b) 5220 (c) 5025 (d) 2520

4) Given $F_1 = 1$, $F_2 = 3$ and $F_n = F_{n-1} + F_{n-2}$ then F_5 is

(a) 3 (b) 5 (c) 8 (d) 11

5) If the sequence t_1, t_2, t_3... are in A.P. then the sequence t_6, t_{12}, t_{18},.... is

(a) a Geometric Progression (b) an Arithmetic Progression (c) neither an Arithmetic Progression nor a Geometric Progression

(d) a constant sequence

6) If a, b, c are in A.P then $\frac{a-b}{b-c}$ is equal to _____

(a) $\frac{a}{b}$ (b) $\frac{b}{c}$ (c) $\frac{a}{c}$ (d) 1

7) Three Numbers a, b and c will be in A.P. If and only if _____

(a) 2b = ac (b) 2b = a + c (c) b = (a - c) / 2 (d) $b^2 = ac$

8) The number 132 is to be written as product of its prime factors. Which of the following is correct?

(a) 132 = 2 x 6 x 11 (b) $132 = 2^2 \times 3 \times 11$ (c) $132 = 2^2 \times 3^2 \times 5$ (d) 132 = 3 x 4 x 11

9) $\frac{5+9+13+\ldots \text{ton terms}}{7+9+11+\ldots \text{to } (n+1) \text{ terms}} = \frac{17}{16}$ then n = ?

(a) 8 (b) 7 (c) 10 (d) 11

10) If 2 + 4 + 6 + ... 2k = 90, then the value of k is _____

(a) 8 (b) 9 (c) 10 (d) 11

II. Answer any 5 question. 6 x 2 = 12

11) Find a_8 and a_{15} whose n^{th} term is

$$a_n = \begin{cases} \frac{n^2-1}{n+3}; n \quad is \quad even, \quad n \epsilon N \\ \\ \frac{n^2}{2n+1}, n \quad is \quad odd, \quad n \epsilon N \end{cases}$$

12) The general term of a sequence is defined as

$a_n = \begin{cases} n(n+3); n \in N \quad is \quad odd \\ n^2 + 1; n \in N \quad is \quad even \end{cases}$

Find the eleventh and eighteenth terms.

13) Find the first four terms of the sequences whose nth terms are given by

$a_n - (-1)^{n+1}\, n\,(n+1)$

14) Find the first five terms of the following sequence,

$a_1 = 1,\ a_2 = 1,\ a_n = \frac{a_{n-1}}{a_{n-2}+3}; n \geq 3, n \in N$

15) If a, b, c are in A.P. then show that 3^a, 3^b, 3^c are in G.P

16) Find the sum $3 + 1 + \frac{1}{3} + \ldots\infty$

III. Answer any 4 Question. 5 x 5 = 25

17) Find the sum of 0.40 + 0.43 + 0.46 + ...+ 1

18) Sivamani is attending an interview for a job and the company gave two offers to him.

Offer A: Rs. 20,000 to start with followed by a guaranteed annual increase of 6% for the first 5 years.

Offer B: Rs. 22,000 to start with followed by a guaranteed annual increase of 3% for the first 5 years.

What is his salary in the 4^{th} year with respect to the offers A and B?

19) The value of a motor cycle depreciates at the rate of 15% per year. What will be the value of the motor cycle 3 year hence, which is now purchased for Rs.45,000?

20) If l^{th} , m^{th} and n^{th} terms of an A.P are x, y, z respectively, then show that $(x - y)n + (y - z)l + (z - x)m = 0$

21) Find the sum to n terms of the series 7 + 77 + 777 + ...

All the best

****