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(1). Let $P=\{a,b,c\}$, $Q=\{g,h,x,y\}$ and $R=\{a,e,b,s\}$ Find $R/(P\cap Q)$.

(2). Let $A=\{1,2,3,4\}$ and $B=\{-1,2,3,4,5,6,7,9,10,11,12\}$. Let $R=\{(1,3),(2,6),(3,10),(4,9)\}\subseteq A\times B$ be a relation. Show that R is a function and find the range of R.

(3). Find the sum of arithmetic series $5+11+17+\dots+95$.

(4). $1^3+2^3+3^3+\dots+n^3=36100$ find $1+2+3+\dots+n$.

(5). In a flower garden there are 23 rose plants in a first row, 21 in the second row, and so on. There are 5 rose plants in the last row. How many rows are there in the flower garden?

(6). How many two digit numbers are divisible by 13?

(7). The centre of a circle is at $(-6,4)$. If one end of a diameter of the circle is at the origin, then find the other end.

(8). Find the value of 'a' if the straight lines $5x-2y-9=0$ and $ay+2x-11=0$ are perpendicular.

(9). Find the equation of the straight lines parallel to coordinate axes and passing through the point $(-5,-2)$

(10). If the points $(p^2,0)$ and $(0,q^2)$ and $(1,1)$ are collinear, prove that $\frac{1}{p^2}+\frac{1}{q^2}=1$.

(11). If the centroid of a triangle is at $(1,3)$

(11). $(7,5)$, $(6,1)$, $(8,2)$ and $(P,4)$ are the vertices of a parallelogram taken order, find P.

(12). If the points $(a,1)$, $(1,2)$ and $(0,b+1)$ are collinear then show that $\frac{1}{a}+\frac{1}{b}=1$.

(13). Find the sum of the following series $31+33+\dots+53$.

(14). $A=\{x \mid x$ - is a prime factor of $42\}$, $B=\{x \mid 5<x\leq 12, x\in N\}$ and $C=\{1,4,5,6\}$ find $A\cup(B\cup C)$.

(15). Find the equation of a straight line passing through $(1,2)$ and perpendicular to the line $y=7$.

(16). Find the equation of the line intersecting the y axis at a distance of 3 units above the origin and tan $\theta=\frac{1}{2}$ where θ is Inclination.

① Let $A = Z - \{0\}$ i.e the set of all non zero Integers and $f: A \to R$ be defined by $f(x) = \frac{|x|}{x}$, $x \in A$. Find the Range and type of function.

② Find the total area of 14 squares whose sides are 11cm, 12cm .... 24cm.

③ Find the sum of the series

$$2 + 4(3)^2 + 6(5)^2 + 8(7)^2 + \cdots + 22(21)^2.$$

④ If $\frac{1}{x+y}$, $\frac{1}{2y}$, $\frac{1}{y+z}$ are three consecutive terms of an A.P, then prove x, y, z are three consecutive terms of a G.P.

⑤ Find the total volume of 15 cubes whose edges are 16cm, 17cm, 18cm, ... 30cm respectively.

⑥ The ratio of the sum of first m and first n terms of an arithmetic series is $m^2 : n^2$. Show that the ratio of the m^{th} and n^{th} terms is $(2m-1) : (2n-1)$.

⑦ If S_1, S_2, and S_3 are the sum of first n, $2n$ and $3n$ terms of G.P respectively, then prove that $S_1(S_3 - S_2) = (S_2 - S_1)^2$

⑧ Let $|x| = \begin{cases} x; & x \geq 0 \\ -x; & x < 0 \end{cases}$ where $x \in R$

Does the relation $\{(x, y) / y = |x|, x \in R\}$ define a function. Find its Range.

Chapter-1

2m

1. Eg:- 1.2.
2. Ex:- 1.1 (1)
3. Ex:- 1.2 (2)
4. Eg:- 1.6
5. Ex:- 1.3 (5)
6. Ex:- 1.3 (8)
7. Eg:- 1.22
8. Ex:- 1.5 (3)
9. Unit ex. 6th.
10. U. Ex. 7th.

5m

1. Ex:- 1.1 (7)
2. Ex:- 1.2 (5)
3. Eg:- 1.18
4. Ex:- 1.4 (2)
5. Ex:- 1.4 (12)
6. Ex:- 1.5 (8)

Chapter-2

2m

1. Eg:- 2.4, 2.5
2. Ex:- 2.1 (2)
3. Ex:- 2.1 (8)
4. Eg:- 2.10
5. Eg:- 2.8
6. Eg:- 2.15
7. Ex:- 2.4 (6), (i)
8. Eg:- 2.26
9. Ex:- 2.5 (4)
10. Eg:- 2.49

5m

1. Ex:- 2.9 (6)
2. Eg:- 2.56
3. ~~5+55+555~~
4. Ex:- 2.7 (12)
5. Ex:- 2.7 (9)
6. Eg:- 2.39
7. Eg:- 2.29
8. Eg:- 2.6

Chapter-3

2m

1. Eg:- 3.12
2. Ex:- 3.4 (2)
3. Ex:- 3.5 (1) iii
4. Eg:- 3.19, 3.20
5. Eg. 3.27
6. Eg:- 3.36
7. Ex:- 3.13 (1)
8. Ex:- 3.17 (6)
9. Ex:- 3.18 (4)
10. Ex:- 3.19 (2)
11. Ex:- 3.9 (1, 2)

5m

1. Ex:- 3.19 (13, 12, 7)
2. Ex:- 3.14 (4)
3. Eg:- 3.45
4. Eg:- 3.35
5. Ex:- 3.8 (1(iv), 3(ii))
6. Eg:- 3.18
7. Eg:- 3.11.

Chapter-4

2m

1. Eg:- 4.2
2. Eg:- 4.8
3. Eg:- 4.15
4. Ex:- 4.2 (1)
5. Eg:- 4.20
6. Eg:- 4.24
7. Eg:- 4.28
8. Eg:- 4.3 (1)

5m

1. BPT or TT.
2. ABT
3. PT or BT.
4. Eg:- 4.23
5. Ex:- 4.3 (7, 8)

Chapter-5

2m

1. Ex:- 5.1 (1)
2. Eg:- 5.9
3. Eg:- 5.11
4. Eg:- 5.26
5. Ex:- 5.2 (3)
6. Eg:- 5.32, 33
7. Eg:- 5.35
8. Ex:- 5.3 (4)
9. Eg:- 5.21
10. Eg:- 5.17

5m

1. Eg:- 5.4,
2. Ex:- 5.1 (5th)
3. Eg:- 5.15
4. Eg:- 5.2 (9)
5. Eg:- 5.16
6. Eg:- 5.27
7. Eg:- 5.29
8. Eg:- 5.4 (7)

Chapter-6

2m

1. Eg:- 6.5
2. Eg:- 6.10
3. Ex:- 6a1 2 (ii)
4. Eg:- 6.19, 6.20
5. Ex:- 6.2 (1), (2)
6. Eg:- 6.26
7. Eg:- 6.21
8. Ex:- 6.3 (1)
9. Ex:- 6.4 (1)
10. Ex:- 6.1 (3, 4).

5m

1. Eg:- 6.11
2. Ex:- 6.1 (7, 8, 9, 10)
3. Eg:- 6.21, 6.24,
4. Ex:- 6.2 (4)
5. Eg:- 6.30
6. Ex:- 6.3 (5)
7. Eg:- 6.33
8. Ex:- 6.4 (3)

Chapter-7

2m

1. Eg:- 7.1
2. Eg:- 7.2
3. Eg:- 7.3
4. 7.8, 7.9, 7.12
5. Ex:- 7.1 (1, 8)
6. Eg:- 7.15
7. Eg:- 7.19
8. Ex:- 7.2 (1, 3)

5m

1. Ex:- 7.4 (3, 5,
2. Ex:- 7.3 (2, 5)
3. Eg:- 7.26
4. Eg:- 7.25, 7.24.
5. Ex:- 7.2 (4, 7, 8)
6. Ex:- 7.1 (8, 9, 10)
7. Eg:- 7.14, 7.3.

Chapter-8

2m

1. Eg:- 8.1, 8.2, 8.3
2. 8.15, ~~8.16~~, 8.18, 8.20
3. 8.22, 8.23, 8.26
4. Ex:- 8.1 (7, 8, 9)
5. Ex:- 8.3 (1, 4)
6. Ex:- 8.4 (1)

5m

1. Eg:- 8.10, 8.13,
2. Ex:- 8.1 ⇒ 14, 15; 11.
3. Ex:- 8.2 ⇒ 5, 6, 8
4. Eg:- 8.16
5. Ex:- 8.3 (6, 7, 8, 9)
6. 8.4 ⇒ 6, 7, 9, 12.

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