

CLASS X

SAMPLE PAPER

MATHS

Time Allowed: 3 Hour

M.M: 80

General Instruction:-

1. All questions are compulsory.
2. The question paper consists of 34 questions divided into three sections A, B, C and D
Section A comprises of 10 questions of one mark each,
Section B Comprises of 08 questions of 2 marks each,
Section C Comprises of 10 questions of 3 marks each,
Section D Comprises of 06 questions of 4 marks each
3. All question in Section A are to be answered in one word, one sentence or as per the exact requirement of the question.
4. There is no overall choice. However, internal choice has been provided in 01 question of two marks each and 03 questions of three marks each and 02 questions of four mark each.

(Section -A)

Q:-1 The (H.C.F X L.C.M) for the number 50 and 20 is
(a) 10 (b) 100 (c) 1000 (d) 50

Q:-2 If 1 is zero of x^3-7x+6 , then other zeroes are
(a) (2, -3) (b) (-2, 3) (c) (2, 3) (d) (-2,-3)

Q:-3 It is given that $\Delta ABC \sim \Delta PQR$ with $BC/QR=1/3$ then
Area (PRQ)/Area (BCA) =
(a) 09 (b) 03 (c) 1/3 (d) 1/9

Q:-4 Given that $\sin \theta = a/b$ than $\cos \theta =$
(a) $b/\sqrt{b^2-a^2}$ (b) b/a (c) $\sqrt{b^2-a^2}/a$ (d) $a/\sqrt{b^2-a^2}$

Q:-5 Which is true $\sin 2A=2\sin A$ if $A=$
(a) 0° (b) 30° (c) 45° (d) 60°

Q:-6 If $\sec 5A = \operatorname{cosec} (A - 36^\circ)$ where $5A$ is an acute angle, find the value of A
 (a) 12° (b) 21° (c) 45° (d) 54°

Q:-7 which is not an irrational number
 (a) $\sqrt{6} + \sqrt{9}$ (b) $\sqrt{2} + \sqrt{4}$ (c) $\sqrt{9} + \sqrt{4}$ (d) $\sqrt{5} + \sqrt{3}$

Q:-8 The value of K if equations $13x + Ky = K$ and $39x + 6y = K + 4$ has infinite many sol.
 (a) 1 (b) 2 (c) 4 (d) 6

Q:-9 If $x \cos A = 1$ and $\tan A = y$ then $x^2 - y^2$
 (a) $\tan A$ (b) 1 (c) 0 (d) $-\tan A$

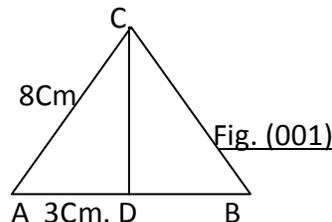
Q:-10 For a symmetric distribution
 a) Mean > Mode > Median
 b) Mean < Mode < Median
 c) Mean = Mode = Median
 d) Mean = $\frac{\text{Mode} + \text{Median}}{2}$

(Section -B)

Q:-11 Find the H.C.F of the smallest composite number and the Smallest prime number

Q:-12 Find the zeroes of quadratic polynomial $2x^2 + 7x + \frac{3}{4}$

Q:-13 In the given figure (001) $\angle ACB = \angle CDA$, $AC = 8\text{cm}$ and $AD = 3\text{cm}$. Find BD



Q:-14 If $\tan \theta = \frac{12}{13}$ evaluate $\frac{2\sin\theta \cos\theta}{\cos^2\theta - \sin^2\theta}$

Or

Evaluate
$$\frac{\sin 30^\circ + \tan 45^\circ - \operatorname{cosec} 60^\circ}{\sec 30^\circ + \cos 60^\circ + \cot 45^\circ}$$

Q:-15 In the given figure (002) $DE \parallel AB$ and $EF \parallel DB$
Prove that $DC^2 = CF \cdot AC$

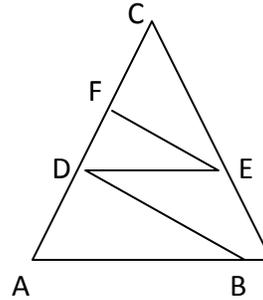


Fig. (002)

Q:-16 In a quadrilateral ABCD, $\angle B = 90^\circ$
If $AD^2 = AB^2 + BC^2 + CD^2$ then $\angle ACD = 90^\circ$

Q:-17 Find the Mean of the frequency distribution

Class Interval	10-30	30-50	50-70	70-90	90-110
Frequency	90	20	30	20	40

Q:-18 Find the Mode of given data

Class Interval	1-3	3-5	5-7	7-9	9-11
Frequency	14	16	4	4	2

(Section -C)

Q:-19 Show that any positive even integer is of the form $6q$, $6q+2$ or $6q+4$,
Where m is some integer

Q:-20 Prove that $\sqrt{p} + \sqrt{q}$ is an irrational, where p and q are primes

Or

Prove that $1/\sqrt{2}$ is irrational

Q:-21 Seven times a two digit number is equal to four times the number
obtained the reversing the digits. If the difference between the

digit is 3. Find the number.

Or

2 women and 5 men can together finish a piece of embroidery in 4 days, while 6 men and 3 women can finish it in 3 days. Find the time taken by 1 woman alone to finish the embroidery and that take by a man more.

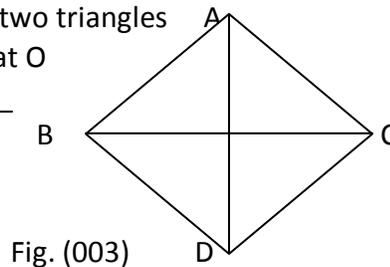
Q:-22 Find a quadratic poly whose sum and Product respectively of the zeroes are as given -3 , $\frac{-1}{2\sqrt{5}}$ _____

Q:-23 $(\text{Cosec } \theta - \text{Sin } \theta) (\text{Sec } \theta - \text{Cos } \theta) (\text{Tan } \theta + \text{Cot } \theta) = 1$

Q:-24 Show that $\tan^4 \theta + \tan^2 \theta = \text{Sec}^4 \theta - \text{Sec}^2 \theta$

Q:-25 The Perimeter of two similar triangles is 25cm. and 15cm. respectively. if one of first triangle is 9cm. What is the corresponding side of other triangle?

Q:-26 In the given figure (003) ABC and DBC are two triangles on the same base BC. If AD intersects BC at O
Prove that $\frac{\text{ar } (\Delta ABC)}{\text{ar } (\Delta DBC)} = \frac{AO}{DO}$



Q:-27 Find the missing term x
If Median of the data is 24

Age in years	0-10	10-20	20-30	30-40	40-50
No. of persons	5	25	x	18	7

Or

Find the Median for the following grouped frequency

Height (in cm.)	160-162	163-165	165-168	169-171	172-174
Frequency	15	118	142	127	18

Q:-28 Find the Median

Class	0-10	10-20	20-30	30-40	40-50	Total
Frequency	8	16	36	34	6	100

(Section -D)

Q:-29 If the remainder on division of $x^3 + 2x^2 + kx + 3$ by $(x-3)$ is 21.
Find the quotient and value of K. Find the zeros of cube polynomial.

Or

Find the values of a and b so that $x^4 + x^3 + 8x^2 + 9x + b$ is divisible by $(x^2 + 1)$

Q:-30 State & Prove that Basic Proportationality Theorem

Or

State & Prove Pythagoras theorem and converse of this theorem

Q:-31 Prove that $\frac{\sin\theta - \cos\theta + 1}{\sin\theta + \cos\theta} = \frac{1}{\sec\theta - \tan\theta}$

Q:-32 If $a^2 \sec^2\theta - b^2 \tan^2\theta = c^2$ prove that $\sin\theta = \pm \frac{\sqrt{c^2 - a^2}}{\sqrt{c^2 - b^2}}$

Q:-33 Solve the following system of linear equation graphically
 $x - y = 1$ and
 $2x + y = 8$

Shaded the area bounded by the lines and y-axis.
Also determines this area

Q:-33 From the data constructed less than ogive and more than ogive
Find out Median from it

Wages in Rs.	0-30	30-40	40-50	50-60	60-70	70-100
No. of workers	3	9	26	31	45	64

Prepared By:-
Sanjeev Kumar
Ph.D (Mathematics)
Contact: +919815843986
For More Sample Paper send
E Mail:- sanjeevgondpur@yahoo.in