

AFSS CENTRAL EVALUATION SYSTEM

Central Assessment Team (CAT), HO Islamabad

Final Term/ Annual Examination 2015 – 2016

MATHEMATICS - Class VIII

100 marks

3 hours

INFORMATION FOR STUDENTS

Marks are given against each question or part of question.

Write your name, roll number and date in the spaces provided below.

Student's Name:

Roll No:

Center's Name:

Date:

Day:

Invigilator's Name:

Sign:

Marks Obtained:

Remarks:

Examiner's Name:

Sign :

Date:

Day:

OBJECTIVE

Q. No. 1: Choose the best answer.

20

- i) If $x^1, x^2, x^3, \dots, x_n$ are n scores, then the means of the scores is:
- a) $\frac{\bar{x}=x_1+x_2+\dots+x^n}{n}$ (b) $\frac{\bar{x}=x_1+x_2+\dots+x^n}{2n}$ (c) none of them
- ii) The number of items falling in any class interval is called the:
- a) Frequency distribution (b) class-mark (c) class-limits
- iii) Area of a triangle = _____
- a) $l \times b$ (b) $\frac{1}{2}(h \times b)$ (c) $l \times l$
- iv) Volume of a sphere of radius r is:
- a) $4\pi r^3$ (b) $\frac{4}{3}\pi r^3$ (c) πr^2
- v) Circumference of the circle is:
- a) πr (b) $2\pi r$ (c) π
- vi) If $\frac{a}{b} = \frac{c}{d} \Leftrightarrow$
- a) $ad = bc$ (b) $ac = bd$ (c) both a & b
- vii) $x^3 - y^3$ is equal to:
- a) $(x-y)(x^2+xy+y^2)$ (b) $(x-y)(x+y)$ (c) $2xy(x-y)$
- viii) $a^2 - b^2 =$ _____
- a) $(a + b)^2$ (b) $(a - b)(a+b)$ (c) $(a - b)^2$
- ix) $\sqrt{3} \times \sqrt{3} \times \sqrt{3} \times \sqrt{3} =$ _____
- a) 21 (b) 81 (c) 27
- x) $\frac{2}{3}$ is a
- a) rational No (b) irrational No (c) integer

- xi) $\sqrt[3]{mn}$ is equal to
- a) $\sqrt[3]{m} \times \sqrt[3]{n}$ (b) $\frac{\sqrt[3]{m}}{\sqrt[3]{n}}$ (c) $m \times n$
- xii) The square root of 196 is
- a) 16 (b) 14 (c) 100
- xiii) $A \cup B$ _____ $B \cup A$
- a) = (b) \neq (c) $>$
- xiv) $a^m \div a^n$
- a) a^{m+n} (b) a^{m-n} (c) $m \times n$
- xv) $a\sqrt{b} \pm c\sqrt{b} =$ _____
- a) $(a \pm c)\sqrt{b}$ (b) $(a \pm b)\sqrt{c}$ (c) none of these
- xvi) The range between 32 & 89 is:
- a) 44 (b) 57 (c) 20
- xvii) If $2a - 3 = 3$ then value of a is
- a) 2 (b) 3 (c) 3
- xviii) Area of trapezium = _____
- a) $l \times b$ (b) $\frac{1}{2}(a + b)h$ (c) l^2
- xix) $(a^2 + ab + b^2) \div (a + b)$
- a) $(a + b)$ (b) $\frac{1}{(a+b)}$ (c) $(a + b)^{-2}$
- xx) $[4a^3]^0 =$ _____
- a) $4a^3$ (b) 1 (c) 0

Q. No: 2. Solve any 10 short questions.

10 x 3 = 30

- i) Simplify $\sqrt[2]{2} \times \sqrt[3]{2}$
- ii) If $x = 2$, then find the value of $8x^3 - 36x^2 + 54x - 28$
- iii) Find the cube of $(2x + 5)$.
- iv) Divide the first expression by second $(a^3 - b^3) \div (a - b)$
- v) The perimeter of a square is 48m. Find its area.
- vi) Find the area of the circle of radius (3.5cm)
- vii) Solve the equation. $3(x + 1) + 2(x - 1) = x - 2$
- viii) Reduce to the lowest term. $\frac{(a^2 - b^2)}{(a^3 - b^3)}$
- ix) Resolve into factors $(a^3 + 8b^3)$
- x) Find the positive square root of the 729.
- xi) Evaluate $\frac{\sqrt{4}}{20}$
- xii) Add the following binary number $(1011)_2 \div (111)_2$
- xiii) If $A = \{1,3\}$, $B = \{2,4\}$ $C = \{5\}$ find $(A \cup B \cup C)$
- xiv) List the numbers of the following sets (a) N (b) E

SUBJECTIVE

Attempt any five questions of the following.

10 x 5 = 50

Q. No.1.a): Find the volume of a right, circular cylinder, when the circumference of its circular base is 44cm and its height is 10cm.

b) Find the mean of first 10 natural numbers.

Q. No.2.a): Use Hero's formula to calculate the area of triangle whose sides are AB = 21mm, BC = 13mm, AC = 20mm.

b) Find the length of each side of a square whose area is 10.24sq/m

Q. No.3.a): Reduced it to its lowest form. $\frac{x^3 - y^3}{x^2 + xy + y^2}$

b) Factorize $x^2 - 20x + 36$

Q. No.4.a): A number increased by unity is equal to twice the number decreased by 2.

b) Find the continued product of $(a - b)(a^2 + ab + b^2)(a^3 + b^3)$

Q. No.5.a): Evaluate $(a^3 - b^3)$ when $(a - b) = 2$ and $a^2 + b^2 = 4$

b) Solve $\frac{3}{(x-1)} + \frac{1}{x+1} = \frac{4}{x}$

Q. No.6.a): The following table gives the heights of 52 boys of a club. Find their average heights.

Height(in cm)	120	125	130	140	145	150
Numbers of boys	4	7	10	18	8	5

b) Find the cost of 100 shares of Rs. 25 each at 15 premium.

Q. No.7.a): Simplify $\frac{3}{\sqrt{5}-\sqrt{2}}$

b) $3\sqrt{14} \times \sqrt{28}$

Q. No.8.a): If $U = \{1,2,3,4,5,6,7\}$

$A = \{1,2,5,7\}$, $B = \{1,3,6,7\}$

Find (a) $A' \cup B'$ (b) $A \cup (B \cap C)$