

**AFSS CENTRAL EVALUATION SYSTEM**

Central Assessment Team (CAT), HO Islamabad

**Final Term/ Annual Examination 2015 – 2016**

**Mathematics - Class VII**

**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: Fill in the blanks.**

**10**

- i) Solids differ from to dimensional figures in that they occupy a certain amount of space, which is called \_\_\_\_\_.
- ii) When the dimensions of a rectangular solid are not equal to one another, the figure is called a \_\_\_\_\_.
- iii) The distance all around a shape is called its \_\_\_\_\_.
- iv) A \_\_\_\_\_ is a quadrilateral in which the opposite sides are parallel.
- v) A \_\_\_\_\_ is a rectangle having four equal sides.
- vi) A chord that passes through the Centre of the circle is called \_\_\_\_\_.
- vii)  $4x + 7 = 2$ . This algebraic statement is known as \_\_\_\_\_.
- viii) The square of  $(2a + 1)$  is equal to \_\_\_\_\_.
- ix)  $(a + b)(a - b) =$  \_\_\_\_\_
- x) In  $2^4$ , 2 is called \_\_\_\_\_ and small raised number is called exponent.

**Q. No. 2:a) State true or false.**

**5**

- i) A square is a parallelogram.
- ii)  $\frac{x^7}{x^4} = x^2$
- iii)  $x^m \times x^n = x^{m-n}$
- iv) Zero is a rational number.
- v) All integers are rational numbers.

**Q. No. 2:B) Match the column A with Column B.**

**5**

<u>Column A</u>	<u>Column B</u>
Volume of a cube	$\frac{1}{2} \times$ product of the digonals.
Area of rectangle	$\frac{1}{2} (b \times h)$
Area of triangle	$l^2$
Area of Square	$l \times b$
Area of a rhombus	$l \times l \times l$

**Q. No. 3: Choose the best answer.**

**10**

- i)  $\frac{-5}{1}$  is a  
 a) rational no      (b) irrational no      (c) none of them
- ii) Sum of  $+\frac{3}{5}$  and  $-\frac{2}{5}$  is equal to  
 a)  $\frac{2}{5}$       (b)  $\frac{1}{5}$       (c) 0
- iii)  $x^0 =$  \_\_\_\_\_  
 a) 2      (b) 1      (c) 3
- iv)  $(a - b)^2 =$  \_\_\_\_\_  
 a)  $a^2 + b^2 + 2ab$       (b)  $a^2 + b^2 - 2ab$       (c) none of these
- v)  $2x + 5 = 19$ , the value of  $x$  is:  
 a) 15      (b) 7      (c) 20

- vi) If  $p + \frac{1}{p} = 2$  then the value of  $p^2 + \frac{1}{p^2}$  is  
 a)  $\sqrt{2}$                       (b) 0                      (c) 4                      (d) 2
- vii) If  $x^2 + y^2 = 14$  and  $xy = 1$  then the value of  $x + y$ , provided  $x$  &  $y$  are positive is:  
 a) 5                      (b) 8                      (c) 4                      (d) 2
- viii) A right angle is equal to:  
 a)  $90^\circ$                       (b)  $180^\circ$                       (c)  $360^\circ$
- ix) If  $A = \{2,4,6,8\}$ ,  $B = \{1,3,5,7\}$  then  $A \cup B$  is:  
 a)  $\{1,2,3,4,5,6,7,8\}$                       (b)  $\{1,2,3\}$                       (c)  $\{1,2\}$
- x)  $(2^{-3})^2 =$  \_\_\_\_\_  
 a)  $2^5$                       (b)  $2^{-6}$                       (c)  $2^{10}$

**Q. No: 4. Solve any 5 short questions.**

**5 x 2 = 10**

- i) Expand  $(2a - 3b + 4b)^2$ .
- ii) Find the product of  $5ab(5 + a + b)$
- iii) Solve the equation  $.3(x + 4) + 5(x + 3) = 2x - 27$
- iv) Factorize  $9x^2 - 25y^2$
- v) Simplify  $(2a)^2 \times (2a)^3$
- vi) Arrange the following expression in ascending & descending order  
 $7x - 4 + 5x^2 - 3x^2$
- vii) Simplify  $\frac{5x^2y^2}{10xy}$
- viii) Express  $\left(\frac{4}{5}\right)^{-2}$  as a rational number.

**SUBJECTIVE**

**Attempt any six questions of the following.**

**10 x 6 = 60**

**Q. No.1.a):** Find the volume and the total surface area of a cuboid whose dimensions are 2m, 80cm and 60cm.

b) Find the perimeter of a square of side 8cm.

**Q. No.2.a):** Construct the triangle ABC with BC = 4.2cm, CA=3.8cm and  $\angle ABC = 45^\circ$ .

b) Draw  $\triangle ABC$  with BC = 3cm, CA = 4cm, AB = 5cm and verify the pythagoras theorem.

**Q. No. 3.:** If  $x^2 + y^2 = 27$  and  $xy = 1$  then find the values of

(a)  $(x - y)$       (b)  $x^4 + y^4$

**Q. No.4.a):** The perimeter of a rectangle is  $(6x + 2)$  units and its length is  $(2x - 3)$  units. Find its area.

b) Multiply  $(3x + 2)$  and  $(x - 1)$

**Q. No.5.a):** Find the greatest common factors of  $(ab)(a - b)$ ,  $a^2(a - b)$ ,  $b^2(a - b)^2$

b) Resolve into factors  $x^4 + x^2 + 1$

**Q. No.6.a):** Find the continued product of  $(x + b)(x - 3)(x^2 + 9)$

b) Evaluate with the help of formula  $57 \times 57$ .

**Q. No.7.a):** Subtract  $(a + b + c)$  from  $2a + b - c$ .

b) Find the value of  $\left(\frac{1}{2}\right)^3 \div \left(\frac{1}{4}\right)^2$

**Q. No.8.a):** Find the positive square root of 210681.

b) If  $A = \{0,2,4,6,8\}$ ,  $B = \{1,3,5,7,9\}$  then find

i)  $A \cup B$       (ii)  $A \cap B$