**AFSS CENTRAL EVALUATION SYSTEM**

Central Assessment Team (CAT), HO Islamabad

**2nd MidTerm Examination 2016 – 17**

**MATHEMATICS - Class VIII**

**50 marks 2 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.

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| --- | --- |
| Student’s Name:  | Roll No: |
| Center’s Name: | Date: |
|  | Day: |
| Invigilator’s Name: | Sign: |
| Marks Obtained:  | Remarks: |
| Examiner’s Name:Date: | Sign :Day: |

***OBJECTIVE-20(marks)***

**Q No1(a):Tick (✓) at the correct answer. 5**

i. Area of the rectangle = \_\_\_\_\_\_\_\_\_\_.

 a) length x breadth b) $\frac{1}{2}$ base x height c) $\frac{1}{3}$ (area of the base) x height

ii. Volume of the right circular cylinder = \_\_\_\_\_\_\_\_\_.

1. $πr^{2}h$ b) $\frac{1}{3} πr^{2}h$ c) 2$πr$

iii. A tangent to the circle is a line which meets the circle at only\_\_\_\_\_\_ point.

 a) two b) one c) six

iv. *a*2 - b2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 a) (a + b)(a2-ab+b2) b) (a-b)(a2+ab+b2) c) (a-b)(a+b)

iv) The line about which a figure is symmetric, is known as the \_\_\_\_\_\_\_\_\_\_\_.

 a) axis of symmetry b) point symmetry c) tangent

v) Circumference of the circle is \_\_\_\_\_\_\_.

 a) 2$πr$ b) 4$πr$ c) 2$π+r$

**Q No2:Solve any five of the following short questions. 3×5=15**

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i) Reduce $\frac{a^{2}-b^{2}}{a^{3}-b^{3}}$ to its lowest term.

ii) Factorize: a3+27

iii) Find the products of (a-2)(a2+2a+4)

iv) Find the circumference of the circle with radius 2$π$.

v). Find the area of the circle of radius 42cm.

vi. Draw a circle of radius 2.5c

***SUBJECTIVE – 30(marks)***

**Solve any three of the following questions. 3×10=30**

**Q No1(a):**Use hero’s formula to calculate the area of triangle whose sides have the following lengths.

 AB= 225m, BC= 125m, AC= 160m

 **b):**Find the volume of a right, circular cylinder when the circumference of its circular base is 44cm and its height is 10cm.

**Q No 2(a):** Simplify the following algebraic expression.

$\frac{x(x^{2}-y^{2})}{x^{2}+4xy+3y^{3}}$ ÷ $\frac{x^{2}-xy}{x+3y}$

 **b):** Solve the equation $\frac{a}{x-a}$ + $\frac{b}{x-b} $= $\frac{a+b}{x-a-b}$

**Q No 3(a):**A father is twice as old as his son. 20 years before, the father was 4 times as old as his son. Find their percentage.

 **b):**If a+b =7, ab = 12 find the value of a3+b3+4ab(a+b).

**Q No 4(a):**Construct a rectangle ABCD with adjacent sides of length 3cm and 4cm. Measure its diagonal AC. Verify that AB2 + BC2 =AC2

 **b):**Draw a trapezium ABCD in which AB CD, B = 6cm, BC=4.5cm

 AD= 6cm and <B = 600