

# ATOMIC ENERGY CENTRAL SCHOOL NO 3 RAWATBHATA

## Periodic Test III (2018-19)

CLASS – IX MM-40

SUB- MATHEMATICS

TIME –  $1\frac{1}{2}$ Hrs

### Instructions –

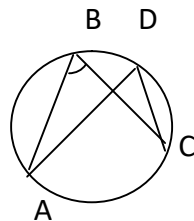
- All questions are compulsory.
- The question paper consists of 16 questions divided into 4 sections (A,B,C& D).
- Section A comprises of 3 questions of 1 mark each.
- Section B comprises of 3 questions of 2 mark each.
- Section C comprises of 5 questions of 3 mark each.
- Section D comprises of 4 questions of 4 mark each.

### SECTION A

Q1 Find the value of :  $4\sqrt{(625)^3} \div 3\sqrt{5^{-1}}$

Q2 Two complementary angles are in the ratio 4:5 .Find the angles .

Q3 In given fig. if  $\angle ABE=65^\circ$  , find  $\angle ADC$  .



### SECTION B

Q4 Express y in terms of x given that  $-2x+y=7$ . Check whether  $(-3, -2)$  is solution on the line.

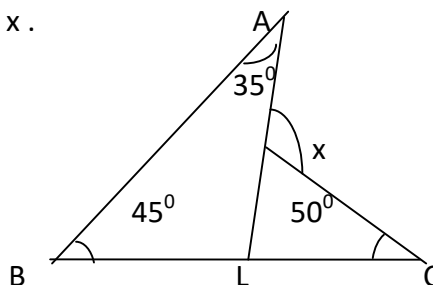
Q5 A diagonal of a parallelogram bisects one of its angles .show that it a rhombus .

Q6 In fig. circle with centre O has a chord  $PQ=8\text{cm}$   $OR \perp PQ$ .If  $OR=3\text{cm}$  then find the length the of the diameter .

### SECTION C

Q7 Show that the quadrilateral formed by the midpoints of the sides of a quadrilateral in order is a parallelogram .

Q8 In fig., find the value of x .



Q9 M is the midpoint of the hypotenuse AB of a right triangle ABC .Prove that  $CM = \frac{1}{2} AB$  .

Q10 Prove that the circle drawn on any of the equal sides of the isosceles triangle as diameter bisects the third side of the triangle .

Q11 XY is a line parallel to side BC of triangle ABC .If BE  $\parallel$  AC and CF  $\parallel$  AB meet XY at E and F respectively , show that :  $\text{area}(ABE) = \text{area}(ACF)$

#### SECTION D

Q12 If  $p(x) = x^4 - 2x^3 + 3x^2 - ax + b$  is a polynomial such that when it is divided by  $x-1$  and  $x+1$  , the remainders are 5 and 19 respectively .Find the values of " a" and " b" .

Q13 The perimeter of a triangle is 50cm.One side of the triangle is 4cm longer than the smaller side and the third side is 6cm less than twice the smaller side.Find the area of the triangle.

Q14 AB and CD are the smallest and largest sides of the quadrilateral ABCD. Prove that

(i)  $\angle B > \angle D$

(ii)  $\angle A > \angle C$

Q15 Construct a triangle ABC such that  $\angle B = 45^\circ, \angle C = 60^\circ$  and  $AB + BC + CA = 10\text{cm}$ .