Grade XI Maths PT-1

ANSWER KEY

Section A

A1. U = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

A = {2, 3, 5, 7}

B = {2, 4, 6, 8, 10}

B’ = {1, 3, 5, 7, 9}

A B’ = {3, 5, 7}

A2. P(A) = {{1} {2} {3} {1,2} {2,3} {3,1} {1,2,3} }

A3. 2i4x27i + i4x25 – i4x4i + 5i3

2i + 1 – i – 5i

1 – 4i

A4. = b

a = 2b

a2  = b2 + c2

c = b

e = = =

A5. n(T) = 25

n(C) = 18

n(U) = 40

n(A U B) = 40 – 8 = 32

n(A B) = -32 + 44 = 12

Tea only = 14

A6. Vertices (4,0) Foci (5,0)

A7. A = {1, 2, 3, 4, 5, 6, 7, 8, 9}

A8. 16 = 12a

a = 4/3

Section B

A9. Point on the circle (3,2)

Center (1,4)

(Radius)2 = 8 1mark

=0 1 mark

A10. 14 + x + x = 3x + x 1 mark

14 = 2x

x = 7 1mark

Section C

11. Venn diagram 2marks

1. 52
2. 30
3. 17
4. 10 ½ mark each.

A12. =

r cos = 1 ….(1)

r sin = - ….(2)

square and add 1 and 2

r = 2 2marks

Q = () ………IV Quadrant

2[cos () + isin()] 2marks

A13 . Point on the circle (-4, -5)

Center (2,3)

Radius = 10 2marks

x2 + y2 – 4x – 6y – 87 = 0 2 marks

Section D

b2 – 4ac = 14 + 12i, (1mark) = a + ib a2 – b2 = 14 …...(1)

2ab = 12 (a2 + b2)2 = (a2 – b2)2 + (2ab)2

a2 + b2 = 196 + 288 = 484 a2 + b2 = 22 ……(2)

solving 1 and 2

a2 = 18, a = b2 = 4, b = 2

a + ib = + 2i, - - 2i 4 marks

x =

x = =

or = = -2i 1mark