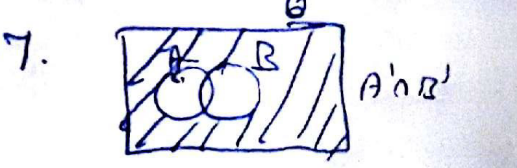


Quarterly Examind  
2018

- 1 c) A
- 2 b) 11
- 3 d) 1
- 4 b) 25
- 5 a) k2
- 6 d) 31
- 7 d)  $akt5$
- 8 c)  $x+1$
- 9 d) not defining
- 10 a) 2, 0
- 11 a) 0
- 12  $3x-y-4=0$
- 13 b) 3.2
- 14 b) 4.5cm
- 15 b) 1

Two marks

6  $B \cap C = \{4, 6\}$   
 $A \cup (B \cap C) = \{0, 1, 2, 3, 4, 6\}$



8, 2, 5, 15, 35, 75

19,  $\boxed{y=3}$

$S_n = \frac{a(r^n - 1)}{r - 1} = 728$

20,  $x=1$   
 $y=5$

21,  $Q = x^2 + 2x - 1$   
 $R = 4$

22,  $\frac{2}{x+1}$

23,  $A = \begin{pmatrix} 1 & 4 & 7 \\ 1 & 2 & 5 \end{pmatrix}$

24  $6A - 3B = \begin{pmatrix} 0 & -18 \\ 33 & -45 \end{pmatrix}$

25,  $A = \frac{1}{2} \left\{ \begin{matrix} (4+18-10) \\ (-6-20-6) \end{matrix} \right\}$   
 $= \frac{1}{2} \sqrt{4+4} = 22 \text{ sq. u}$

26,  $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2+2}{4} = \frac{4}{4} = 1$

27,  $m = \frac{2}{3}$   $x_1 = 5$   $y_1 = -4$   
 $y - y_1 = m(x - x_1) / 2x - 3y - 22 = 0$

28,  $\frac{\sqrt{1 - \cos^2 \theta}}{\sin^2 \theta} = \text{cosec} \theta \cdot \cot \theta$

29,  $\frac{AP}{PB} = \frac{AR}{RD}$   $RD = 3 \text{ cm}$   
 $AD = 7.5 \text{ cm}$

30 a)  $a=9$   $b=15$   
b)  $1 - 2 \sec \theta \tan \theta + 2 \tan^2 \theta$

5 MARKS

31)  $B \cap C = \{15, 20\}$   
 $A \cap (B \cap C) = \{10, 25, 30, 35, 40, 45, 50\}$

$A \cap B = \{25, 35, 40, 45, 50\}$   
 $A \cap C = \{10, 25, 30, 40, 50\}$   
 $(A \cap B) \cup (A \cap C) = \{10, 25, 30, 35, 40, 45, 50\}$

32) Total = 154  
 Maths only = 24  
 L.S only = 80  
 Phy only = 22  
 All three = 106.

33)  $f(1) = 1$ ,  $f(4) = 2$   $f(15) = 4$   
 $f(18) = 5$   $f(21) = 6$

34)  $S_{11} = a + 5d = 4$   
 $S_{22} = 2a + 21d = 9$   
 $a = \frac{39}{11}$   $d = \frac{1}{11}$

35  $\frac{7}{9} \left[ \frac{10(10^n - 1)}{10 - 1} - n \right]$

36,  $(x-1)(x-12)(x-10)$

37  
 $x^2 - x - 2 = (x-2)(x+1)$   
 $x^2 + x - 6 = (x-2)(x+3)$   
 $3x^2 - 13x + 14 = (x-2)(3x-7)$   
 $C \cap C \cap D = x - 2$

38)  $\frac{1}{x+4}$

39  $(A+B)C = \begin{pmatrix} 62 & 27 \\ 74 & 69 \end{pmatrix}$

$AC = \begin{pmatrix} 18 & 9 \\ 38 & 15 \end{pmatrix}$   $BC = \begin{pmatrix} 44 & 18 \\ 36 & 54 \end{pmatrix}$

40

$$(AB)^T = \begin{pmatrix} 8 & 11 \\ -3 & 4 \end{pmatrix}$$

$$A^T = \begin{pmatrix} 5 & 7 \\ 2 & 3 \end{pmatrix}$$

$$B^T = \begin{pmatrix} 2 & -1 \\ -1 & 1 \end{pmatrix}$$

41) Area of quadr =  $\frac{1}{2} \{80\}$   
 $= 40$

42)  $\frac{x}{a} + \frac{y}{b} = 1$

$$a + b = 5$$

$$a^2 - 13a + 30 = 0$$

$$a = 3 \quad a = 10$$

$$2x + 3y = 6$$

$$x - 2y = 10$$

Prepared

by R. MAHESWARAN

B.T. ASST (MATHS)

S.H.N. EDWARD H.S.S

SATTUR

43, Thales theorem

$$44, = x^2 - y^2$$

$$= (a \sec \theta + b \tan \theta)^2 -$$

$$(a \tan \theta + b \sec \theta)^2$$

$$= a^2 (\sec^2 \theta - \tan^2 \theta)$$

$$+ b^2 (\tan^2 \theta - \sec^2 \theta)$$

$$= a^2 - b^2$$

45

a) 104, 112, 120, ... 992

$$n = 112$$

$$S_{112} = \frac{n}{2} [a + l]$$

$$= 56 (1096)$$

$$= 61376$$

(or)

b)  $\frac{x^3 - 1}{x + 2} + P(x) = \frac{2x^3 - x^2 + 3}{x^2 + 2}$

$$P(x) = \frac{x^3 - x^2 + 4}{x^2 + 2}$$