2nd Term Examination - 2016
Grade Eleven - Mathematics - Answers.

Part - I (A)

(01) $\frac{11}{5} + \frac{3}{2} \div \frac{5}{4}$

$= \frac{11}{5} + \frac{3}{2} \times \frac{4}{5}$ 1

$= \frac{11}{5} + \frac{6}{5}$ ...

$= \frac{17}{5}$

$= 3\frac{2}{5}$ 1

(02) $\frac{20}{100} \times 4000 \times 2$

$= 1600$ 1

වෙළඳ ලාභය = 5600 1

(03) $360 - 134$ 1

226° 1

(04) $\frac{3}{5} \times 60$ 1

$= 36 km$ 1

(05) $x = 42^\circ$ 1

$y = 84^\circ$ 1

(06) $\frac{7}{x-1} = \frac{1}{3}$ 1

$x = 22$ 1

(07) $\log_3 \left(\frac{12 \times 9}{4}\right)$ ... 1

$\log_3 27 = 3$ ... 1

(08) $2AS = V^2 - U^2$ ... 1

$A = \frac{V^2 - U^2}{2S}$ ... 1

(09) $\frac{100}{88} \times 528$ 1

Rs 600 1

(10) (i) $m = -\frac{4}{3}$ ... 1

(ii) $y = -\frac{4}{3}x + 4$ ... 1

(11) (i) 20 ... 1

(ii) 31 ... 1

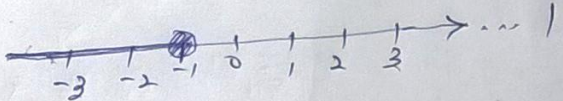
(12) $\pi r^2 = 2\pi r$ ... 1

$r = 2$ ... 1

(13) (i) 100° 1

(ii) $y = 2x$ 1

(14) $x \leq -1$ ... 1

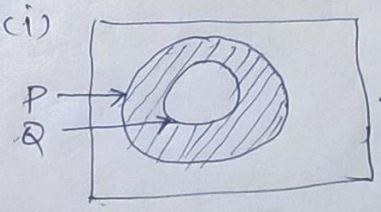


... 1

(15) (i) $60\ cm^2$ ... 1

(ii) $\Delta ABE = \frac{1}{2} \square ABCD$ ... 1

(16) (i)



... 1

(ii) 12 1

(17) $\frac{\theta}{360} \times 2\pi 9$ 1

$\frac{60}{360} \times 2\pi 9$ 1

$\frac{1}{3}\pi 9$

(18) $(x+y)(x-y)+5(x-y)$ 1

$(x-y)[x+y-5]$ 1

(19) $60\times4-55\times3$ 1

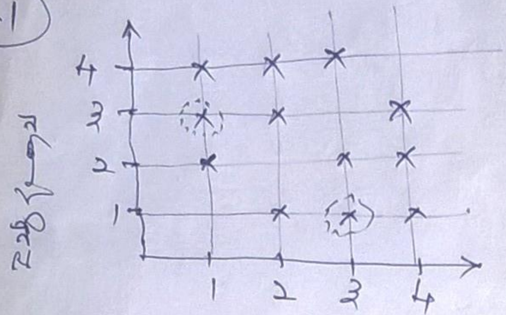
$240-165$

75 kg 1

(20) $180+40+60+x=360$ 1

$x=80^\circ$ 1

(21)



[illegible]

$\frac{2}{12}$ 1

(22) $\frac{x-2}{(x+3)(x-3)}=\frac{x+3}{2(x-2)}$ 1

$=\frac{1}{2(x-2)}$ 1

(23) [illegible] $=16$ 1

$(x+4)^2$ 1

(24) $\frac{3}{x+2}=\frac{4}{2x}$ 1

$x=4$ 1

(25) $19+24\div4$ 1

$19+6$

25 1

Part - I (B)

01) (i) $\pi r+2r$

$=\frac{22}{7}\times\frac{21}{2}+21$ 1

$=33+21$

$=54$ cm 1

(ii) $\frac{60}{360}\times\frac{22}{7}\times21\times21$

$=231\ m^2$ 1

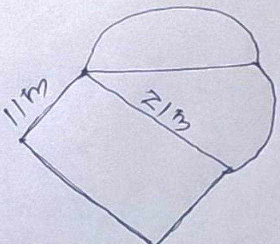
(iii) [illegible] $=\frac{1}{2}\pi r^2$

$=\frac{1}{2}\times\frac{22}{7}\times\frac{21}{2}\times\frac{21}{2}$

$=173.25\ m^2$ 2

[illegible] $3:4$ 2

(iv)



..... 2

Part - I (B)

01) (i) $\frac{4}{6} = \frac{2}{3}$ 2

(ii) $\frac{1}{6}$ 2

(iii) $\frac{2}{6} = \frac{1}{3}$ 2

(iv) $12 \div \frac{1}{3}$ 1

36 பேர் 1

(v) $\frac{1}{6} \times 36 = 6$ பேர் ... 2

02) (i) As : Am : Nkth

60 000×12 : 60000×9 : 90 000×6

4 : 3 : 3 3

(ii) $\frac{4}{10} \times 80\,000$ 1

ரூ 32 000 1

(iii) அமல் . [illegible] 2

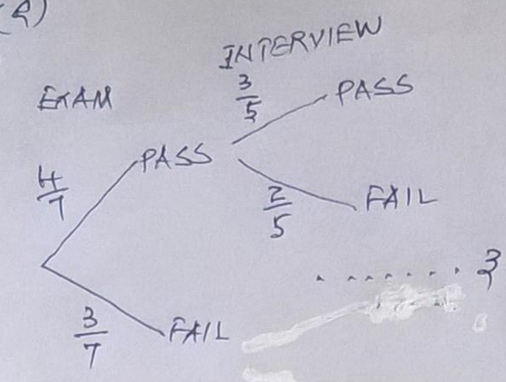
(iv) இலாபம் = $\frac{3}{10} \times 80\,000$

= 24 000/= ... 1

3 வருட வட்டி = $\frac{12}{100} \times 24000 \times 3$

= 8640/= ... 2

04) (a)
(i)



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(ii) $\frac{12}{35} \times 70$

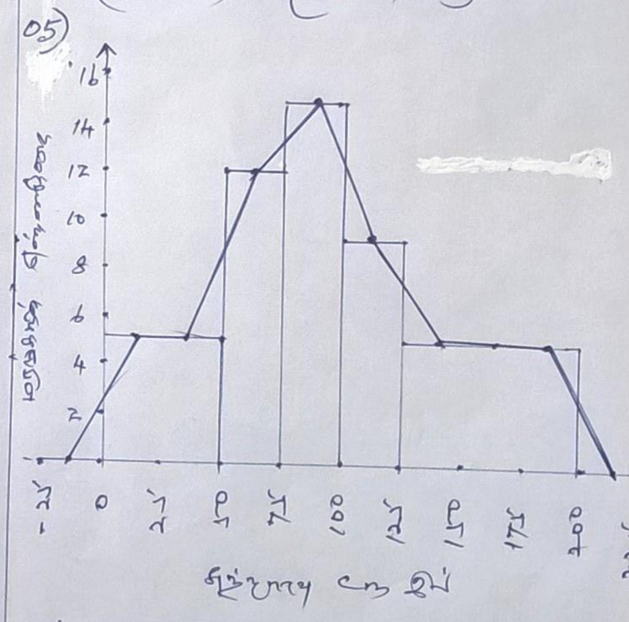
= 24 பேர் 3

(b)
(i) $A \cap B = \{3, 5, 7\}$ 1

$n(A \cap B) = 3$ 1

(ii) $(A \cup B)' = \{4, 6, 8\}$ 2

05)



(i) 05 புள்ளிகள் (ii) 03 புள்ளிகள்

(iii) [illegible]

விடைகள்

Part II (A) G.C.E (O/L)

(1) (i) 48000/= —— (1)

(ii) 48000 ÷ 15 —— (1)

= 3200/= —— (1)

(iii) $\frac{15 \times 16}{2}$ —— (1)

= 120 —— (2)

(iv) $\frac{48000/= + 5760/=}{15} = \frac{53760/=}{15} = 3584/=$ —— (2) + (2)

(2) (a) (i) $x = -3$, $y = 1$ —— (1)

(ii) உரிய வரை —— (3)

(b) (i) $a + 3 = -3$ —— (1)

$a = -6$ —— (1)

(ii) $+0.9 < x < +2$ —— (1) + (1)

(iii) $(-1, 3)$ —— (2)

(3) (a) (i) $x(x+1), 2(x+1)$ —— (1)

பொ.ம.ம = $2x(x+1)$ —— (1)

(ii) $\frac{1}{y^2} + \frac{1}{y^2} = \frac{1}{2}$ —— (1)

$\frac{2}{y^2} = \frac{1}{2}$ —— (1)

$y^2 = 4$

$y = \pm 2$ —— (2)

<03> <b> <i> ரூ x —— (1)

<ii> 500g தேயிலையின் விலை = ரூ $25x$ —— (1)

~~1kg தேயிலையின் விலை = ரூ 50x~~

2kg சீனியின் விலை = ரூ $20x$ —— (1)

500g தே. விலை > 2kg சீனியின் விலை —— (1)

<04> <a> $a^2+2ab+b^2=49$ —— (1)

$a^2+b^2 = 49-2ab$ —— (1)

$a^2+b^2 = 41$ —— (1)

<b> (i) $(x+7)^3 = x^3+21x^2+147x+343$ —— (2)

<ii> $15^3 = (10+5)^3 = (12+3)^3$ போன்ற ஏதாவதொரு தொடர்புக்கு

$(10+5)^3$ —— (1)

$= 10^3+1500+750+125$ —— (1)

$= 3375$/= —— (1)

<c> $(3x+2)(x+7)=0$

$x=-2/3$ or $x=-7$ —— (1) + (1)

<05> (a) (i) 070° —— (1)

<ii> 300° —— (2)

<b> <i> 1:400 —— (1)

<ii> 140 m —— (1)

<c> <i> $\frac{h}{2x} = \frac{2h}{2x+3}$ $\therefore x = 1\frac{1}{2}$ cm —— (2)

<ii> $\tan 45^\circ = \frac{h}{3}$ —— (2)

$h = 3$cm —— (1)

(06) (i) $9x^2 \times 5x$ —— ①

$= 45x^3$ —— ①

(ii) $V = \frac{1}{3}a^2h$

$= \frac{1}{3} \times 45x^3$ —— ①

$V = 15x^3$ —— ①

(iii) $V = 15x^3$

$V = 15 \times 0.769^3$

$\lg V = \lg 15 + 3\lg 0.769$

$=$

(07)

(i) $(x+b)-(x+z)$

4 —— ①

(ii) $x+2+9\times4$ —— ①

$x+38$ —— ①

(iii) $x = 2$ —— ②

(iv) $T_{25} = x+2+24d$ —— ①

$= y+2+24d$ —— ①

$= 25y+d$ —— ②

$S_{10} = (4+40) \times \frac{10}{2}$ —— 2

$= 44 \times 5$ —— 2

$S_{10} = 220$ —— 1

(08) (i) —— ①

(ii) —— ① + ①

(iii) —— ②

(iv) —— ③

(v) —— ②

(09) (i) 7 − 9 —— ①

(ii) 8 பேர் —— ①

$\frac{8}{25} \times 100\%$

32% —— ①

(iii)

வ.கு	ந.பெ (x)	(f)	fx
1-3	2	5	10
4-6	5	5	25
7-9	8	7	56
10-12	11	4	44
13-15	14	1	14
16-18	17	3	51
		$\Sigma f = 25$	$\Sigma fx = 200$

ந.பெ → ②

Σfx → ②

இடை $= \frac{\Sigma fx}{\Sigma f} = \frac{200}{25} = 8$ → ①

(IV) ரூபா 25×8×50 1
ரூபா 10 000 1

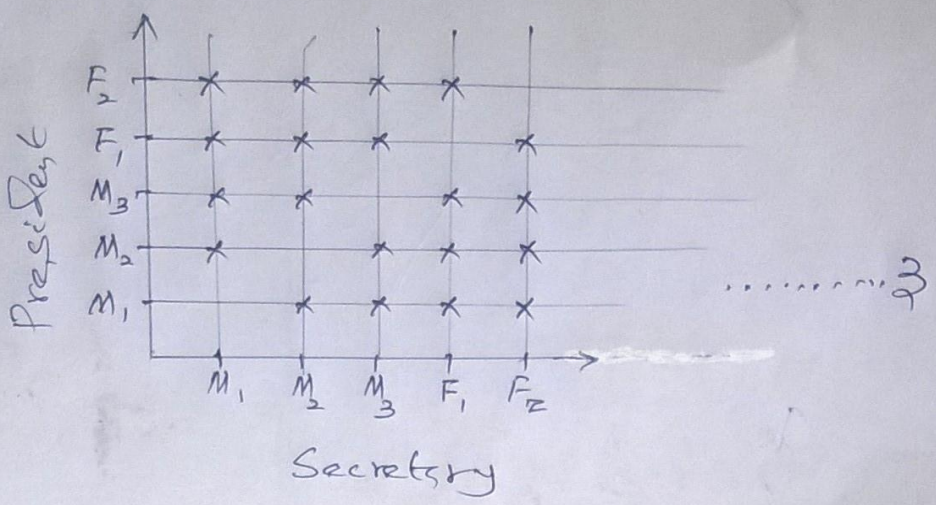
(10) (i) 33 —— ①

(ii) $n(A \cup B) = 33$
$n(A) = 33$
$n(B) = 25$
$n(A \cap B) = 25$

$n(A \cup B) = n(A) + n(B) - n(A \cap B)$
$33 = 33 + 25 - 25$ —— ①
$33 = 33$ —— ①
எனவே முடிவு உண்மையாகும். —— ①

(iii) உரிய பிரதேசத்தை நிழற்றுதல் —— ②

10(b) (i)



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(ii) $\frac{6}{20}$ 1

(11) (i) $A\hat{D}B$ ——— (2)

(ii) $A\hat{O}B = 2A\hat{D}B$ ——— (2)

(iii) $O\hat{B}A$ ——— (2)

(iv) 100° ——— (2)

(v) 50° ——— (2)

(12) (i) தரவுகளைக் குறிக்க ——— OZ

(ii) தரவு :- PQRS ஓர் இணைகரம்

X, Y என்பன SP, RQ ஆகிய பக்கங்களின் நடுப்புள்ளிகள். ——— (1)

தேவை :- I, II

நிறுவல் :- XS // QY

XS = QY எனக்காட்டல் ——— (2)

(iii) LM = MR எனப்படல் ——— (2)

PL = LM = MR ——— (2)

$\therefore PM = \frac{2}{3} PR$ ——— (1)