EQUIP - DIET KASARAGOD

SSLC PRE-MODEL EXAMINATION - MARCH 2022

Mathematics - Answer key

1. 27 (1)

2. 60^0 (1)

3. $\frac{12}{25}$ (1)

4. $\frac{7}{25}$ (1)

5. 4 (1)

6. 7 (1)

B 7. 90^0 (1)

8. $2+\sqrt{2},\ 2-\sqrt{2}$, (1)

9. (2,2) (1)

10. $1\pm\sqrt{2}$ (1)

PART II

11. a) d=3 (1)

    b) 30 (1)

12. a) $\angle A=50^0$ (1)

    b) $\angle OBC = 40^0$ (1)

13. $\frac{\pi}{4}$ (2)

14. (-2,6), (6,3) (1+1=2)

15. a) മാധ്യം = 31 (1)

    b) മധ്യമം = 31 (1)

B. 16. 8, 5 (2)

17. $\frac{a}{\text{Sin } A} = 2R \Rightarrow 2R = \frac{8}{\sqrt{3}}$ (2)

18. $r = \frac{A}{S}\quad A = 54,\quad S = 18$ (1)

    r = 3 (1)

PART III

A. 19. നിർമ്മിതി (4)

20. a) 16 - x (1)

b) PD = 15 (1)

c) PA = 10 (2)

21. നിർമ്മിതി (4)

22. P = (4, 5), Q = (2,1)

R = (6,3) (4)

23. a) P(1) = 0 (1)

P(6) = 0 (1)

b) 1, 6 (1)

c) (x-1) (x-2) (x-3) (1)

24. a) d=6 (1)

b) $Sn = 4n^2 + 12n$

$Sn+9 = 4n^2 + 12n + 9$

$= (2n+3)^2$ (3)

25. a) 2, 3, 4, 5, 6, 7,

8, 9, 10, 11, 12 (3)

b) 7

PART IV

26. a) x+2 (1)

b) $x^2+2x=224$ (2)

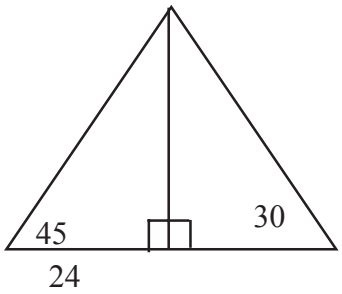
c) നീളം = 16, വീതി = 14

ചുറ്റളവ് = 60 (3)

27. a) 24 (2)

b) നിർമ്മിതി (4)

28. a)



(1)

b) 24 മീ. (2)

c) $48+24\sqrt{2}$ (3)

29. a) $AB=\sqrt{212}$

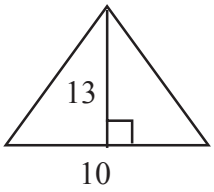
$BC=\sqrt{106}$

$AC=\sqrt{106}$

$AB^2 = BC^2 + AC^2$ (4)

b) സമചതുരം (2)

30. a)



(3)

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

$a=\sqrt{288},\ h=12$

$\therefore V=1152cm^3$ (3)

31. a)

AP : PB = 1:2

AQ : QB = 2:1

തുല്യമായി ഭാഗിക്കുന്ന ബിന്ദുക്കൾ (3,3), (5,4) (3)

b) $(x-2)^2 + (y-1)^2 = 5$ (3)

32.

വയസ്സ്	ആളുകളുടെ എണ്ണം
10 ൽ താഴെ	5
20 ൽ താഴെ	20
30 ൽ താഴെ	40
40 ൽ താഴെ	65
50 ൽ താഴെ	80
60 ൽ താഴെ	91
70 ൽ താഴെ	100

(1)

a) 50, 51 (1)

b) $d = \frac{25}{10}$

$$x_{41} = x_{40} + \frac{d}{2}$$

$$= 30 + \frac{25}{20}$$ (2)

c) $x_{50} = x_{41} + 9d$

$$= 30 + \frac{25}{20} + \frac{9x25}{10}$$

$$= 30 + \frac{25+450}{20}$$

$$= 30 + \frac{475}{20}$$

$$x_{51} = 30 + \frac{525}{20}$$ (2)

∴ മധ്യമം = 55

PART V

33. a) 17 18 19 20 21 22 23 24 25 (1)

b) 1, 3, 5, 7, ... (1)

c) $x_n = 2n-1$ (2)

d) $x_{30} = 59$ (2)

e) $30^2 = 900$ (അവസാന സംഖ്യ) (2)

842 ആദ്യസംഖ്യ (2)

34. a) (i) 18cm (1)

ii) r = 12 cm (1)

iii) 216π ച.സെ.മി. (2)

b) $\frac{1}{3}\pi r^3, \quad \frac{2}{3}\pi r^3, \ \pi r^3, \quad \frac{4}{3}\pi r^3$ (2)

$d = \frac{1}{3}\pi r^3$ (2)

35. a) 64 (1)

b) 1 (1)

c) 0, 1 (1)

d) 9, 36, 81, ... (1)

e) 900 (1)

f) 1 (1)

g) 1 (1)

h) 4, 7, 10, ... (1)