

This Question Paper contains 4 Printed Pages.

16E(B)

MATHEMATICS, Paper - II

(English version)

(Parts A and B)

Time : 2 hrs. 45 min.]

[Maximum Marks : 40

Instruction : Write the answers to the questions in this Part-B on the Question paper itself and attach it to the answer book of Part-A.

Part - B

Time : 30 minutes

Marks : 10

SECTION - IV

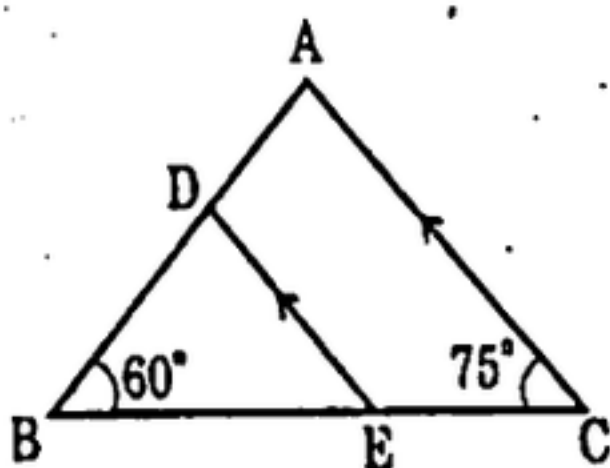
(Marks : $20 \times \frac{1}{2} = 10$)

Note :

- (i) Answer all the questions.
- (ii) Each question carries $\frac{1}{2}$ mark.
- (iii) Marks will not be awarded in any case of over-written, rewritten or erased answers.
- (iv) Each question has four options. Write the CAPITAL LETTERS (A, B, C, D) showing the correct answer for the following questions in the brackets provided against them.

14. In the figure, $\angle BDE = \dots$

[]



(A) 45°

(B) 65°

(C) 75°

(D) 60°

15. $\cos 60^\circ + \sin 30^\circ$ value is []
- (A) $\frac{\sqrt{3}}{2}$ (B) 1
(C) $\cos 90^\circ$ (D) B and C
16. X-coordinate of intersecting point of two ogives, represents []
- (A) Mean (B) Median
(C) Range (D) Mode
17. Centroid of a triangle, whose vertices are $(-a, 0)$, $(0, b)$ and $(a, 0)$ is ... []
- (A) (a, b) (B) $(\frac{a}{3}, 0)$
(C) $(0, \frac{b}{3})$ (D) $(\frac{a}{3}, \frac{b}{3})$
18. The formula to find the area of a triangle is []
- (A) $\Delta = \frac{1}{2}bh$ (B) $\Delta = \sqrt{(s-a)(s-b)(s-c)}$
(C) $\Delta = \sqrt{s(s-a)(s-b)(s-c)}$ (D) A and C
19. The theorem applied to divide the line segment in the given ratio is []
- (A) Pythagorus theorem (B) Thales theorem
(C) Euclid's theorem (D) Brahmagupta theorem
20. The number of tangents drawn at the end points of the diameter is []
- (A) 1 (B) 2
(C) 3 (D) Infinite
21. If $\sec A + \tan A = \frac{1}{5}$, then $\sec A - \tan A =$ []
- (A) 5 (B) $\frac{1}{5}$
(C) $\frac{4}{5}$ (D) $\frac{2}{5}$

22. The length of shadow of a pole is equal to the length of the pole, then the angle of the elevation of the Sun is []
 (A) 15° (B) 30°
 (C) 45° (D) 60°
23. Angle in a semi-circle is ... []
 (A) 60° (B) 90°
 (C) 180° (D) 270°
24. The probability that the sum of two numbers appearing on the top of the dice is 13, when two dice are rolled at the same time is []
 (A) -1 (B) 1
 (C) 0 (D) 2
25. If $P(E) = 0.05$, then $P(\bar{E}) =$ []
 (A) 0.5 (B) 0.95
 (C) 9.5 (D) 0.095
26. The mode of the data 5, 6, 9, 10, 6, 11, 4, 6, 10, 4 is []
 (A) 4 (B) 5
 (C) 6 (D) 10
27. Reciprocal of $\tan \theta$ is ... []
 (A) $\sec \theta$ (B) $\cot \theta$
 (C) $\operatorname{cosec} \theta$ (D) $-\tan \theta$
28. $(\sec^2 \theta - 1)(\operatorname{cosec}^2 \theta - 1) =$ []
 (A) 0 (B) -1
 (C) $\tan^2 \theta$ (D) $\cot^2 \theta$

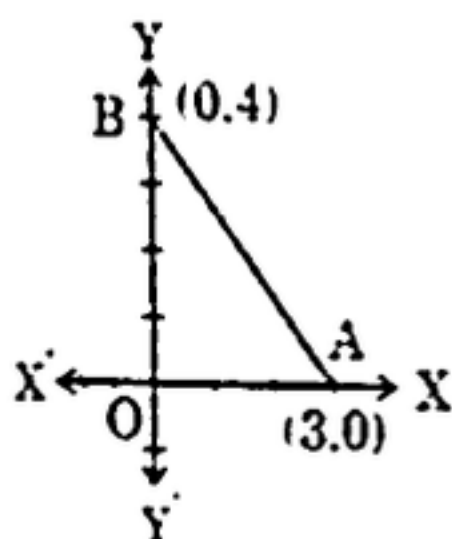
29. The centre of the circle is (2, 1) and one end of the diameter is (3, -4).
Another end of the diameter is

- (A) (1, 6) (B) (-1, -6)
(C) (1, -6) (D) (-1, 6)

30. The letter that represents $\frac{x_i - a}{h}$, which is used in measuring
mean is

- (A) d_i (B) f_i
(C) u_i (D) $\bar{x}$

31. In the given figure, area of ΔOAB is



- (A) 12 sq.u. (B) 6 sq.u.
(C) 24 sq.u. (D) 18 sq.u.

32. Which of the following be the probability of an event ?

- (A) -1.5 (B) 2.4
(C) 0.7 (D) 115%

33. $\sin(90^\circ - A) = \frac{1}{2}$, then $A =$

- (A) 30° (B) 45°
(C) 60° (D) 90°