## MULTIPLE CHOICE QUESTIONS

## Type I: Problems on Basic Definition:

1. Polar form of the complex number z = x + iy is

(1)

- (A) r  $(\cos \theta + i \sin \theta)$
- (B)  $r(\cos \theta i \sin \theta)$

(C)  $(\cos \theta - i \sin \theta)$ 

- (D)  $(\cos \theta + i \sin \theta)$
- 2. Exponential form of the complex number z = x + iy is

(1)

(B)  $e^{i\theta}$ 

(C)  $re^{\theta}$ 

- (D) none of these
- Modulus of the complex number z = x + iy is

(1)

(A)  $\sqrt{x^2 - y^2}$ 

(B)  $\tan^{-1} \frac{y}{x}$ 

 $(x) \sqrt{x^2 + y^2}$ 

- (D) none of these
- 4. Argument of the complex number z = x + iy for x > 0, y > 0 is
- (1)

- $(A) \tan^{-1} \frac{y}{x}$
- (B)  $\tan^{-1}\frac{x}{y}$
- (C)  $\sqrt{x^2 + y^2}$
- (D)  $\sqrt{x^2 y^2}$
- 5. If z = x + iy is the complex number then its complex conjugate z is equal to

(B) -x + iy

- (D) none of these
- 6. On Argand's diagram, complex number z = x + iy represents
- (1)

- (A) point on xoy-plane
- (B) line on xoy-plane
- (C) circle on xoy-plane
- (D) none of these
- 7. Two complex numbers  $z_1$  and  $z_2$  are comparable if

(1

- (A)  $z_1$  and  $z_2$  are real numbers
- (B)  $z_1$  and  $z_2$  are complex numbers
- (C)  $z_1$  is complex number and  $z_2$  is real number
- (D)  $z_1$  is real number and  $z_2$  is complex number

(1)

- 8. If z = x + i then arg (z) is equal to

(B)  $\pi + \frac{\pi}{4}$ 

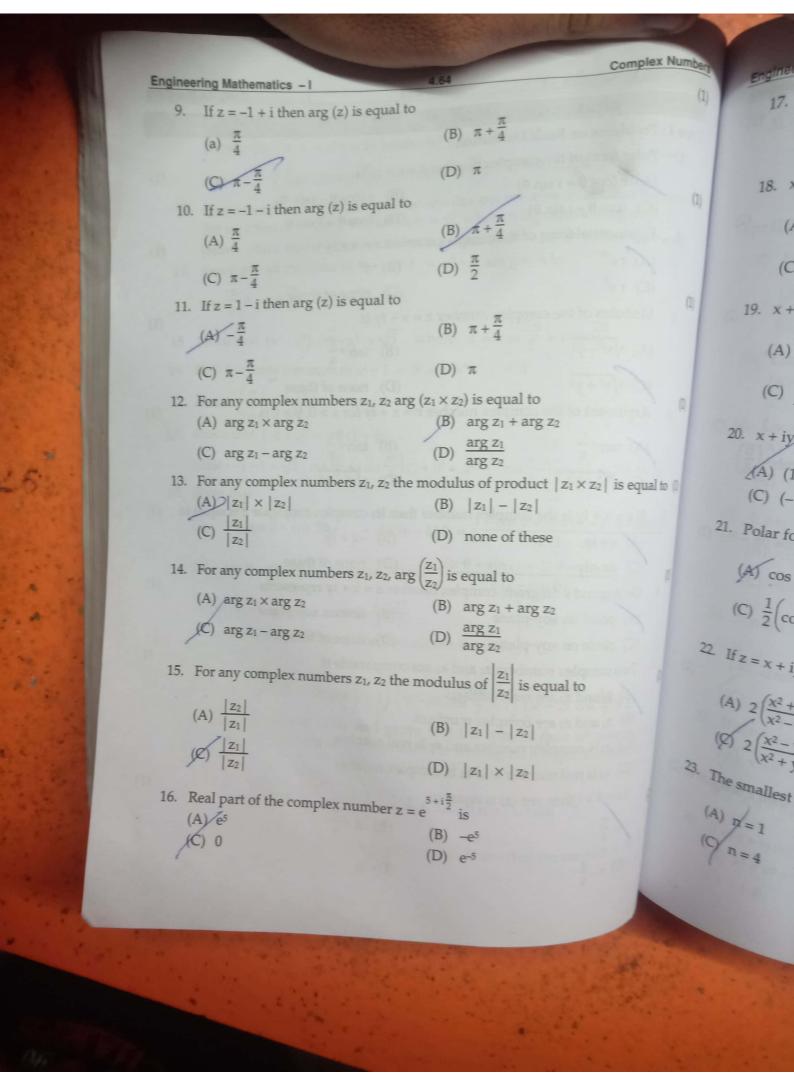
(C)  $\pi - \frac{\pi}{4}$ 

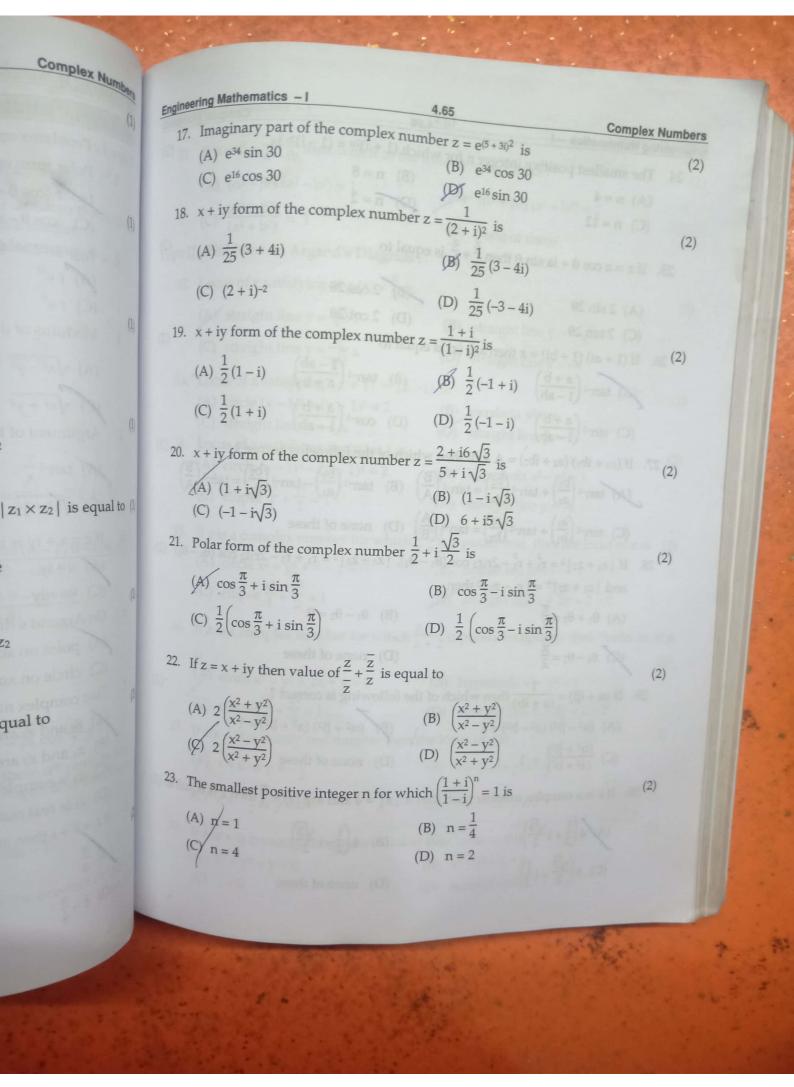
(D) n

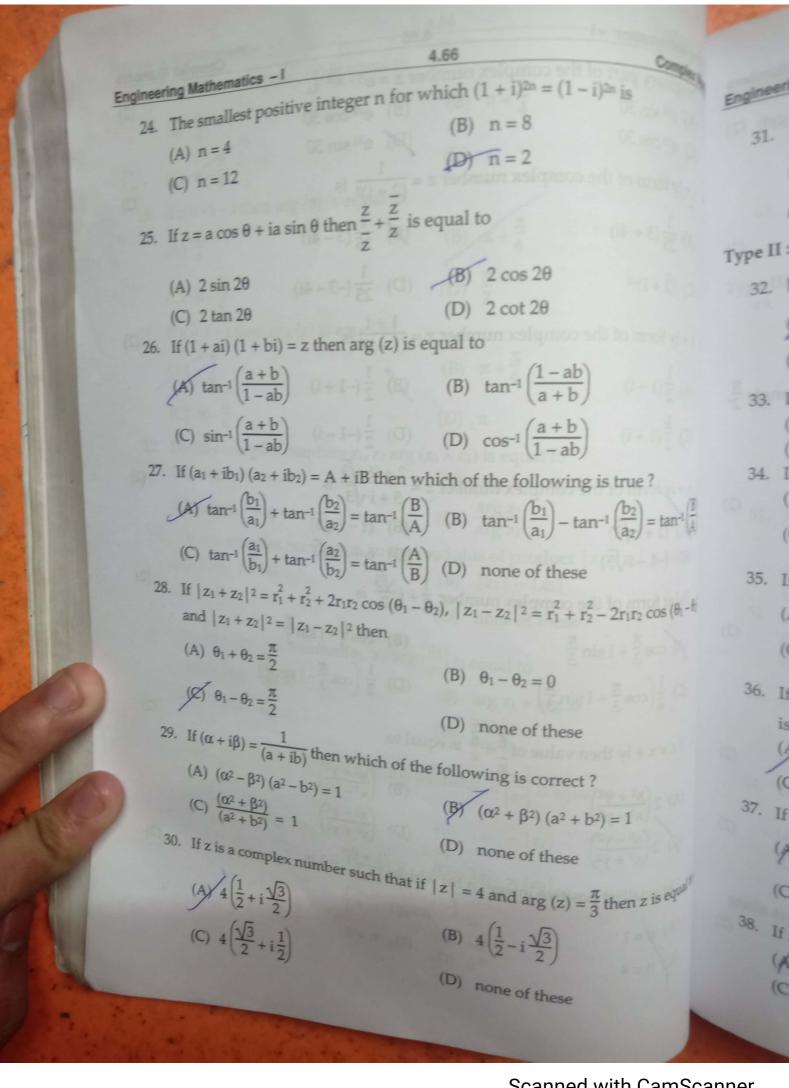
so the root

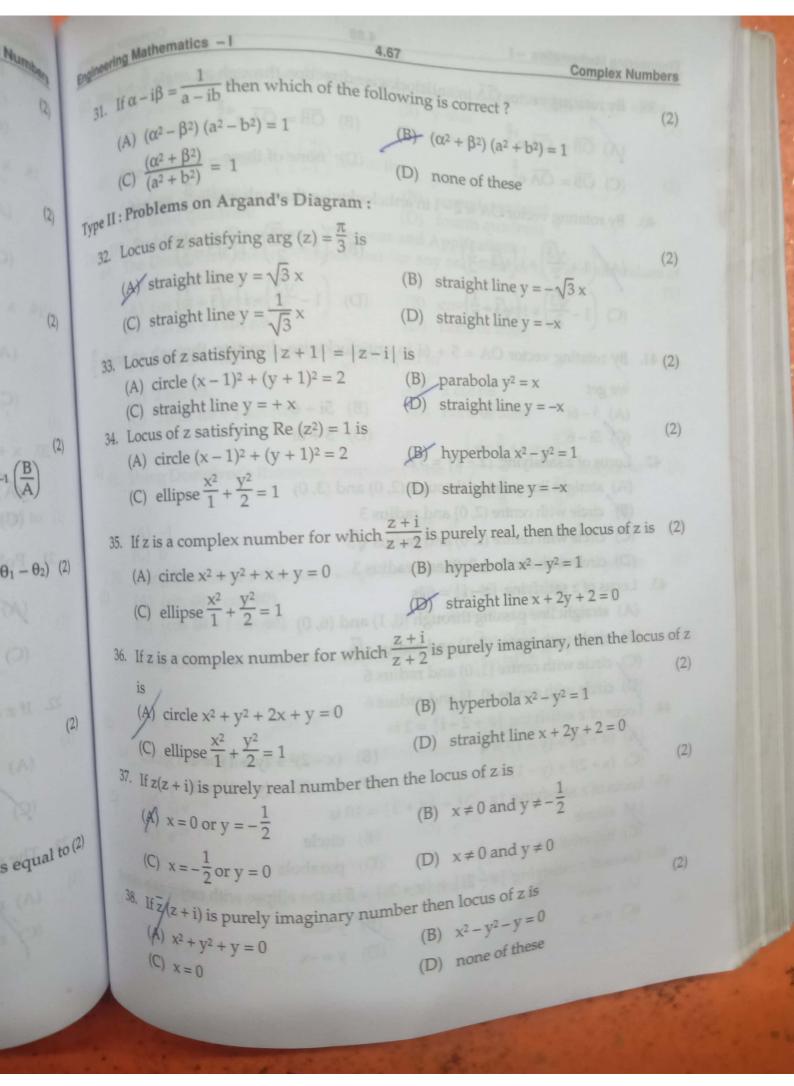
 $+ a^{2n} = 0$ 

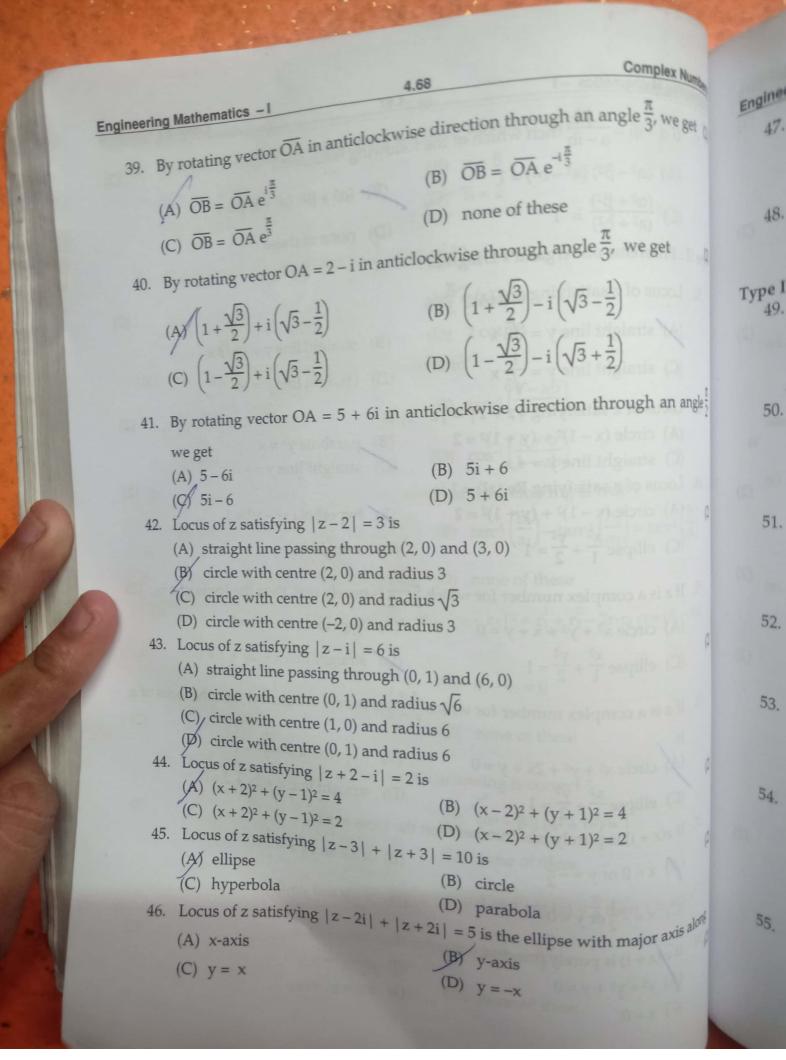
ger.

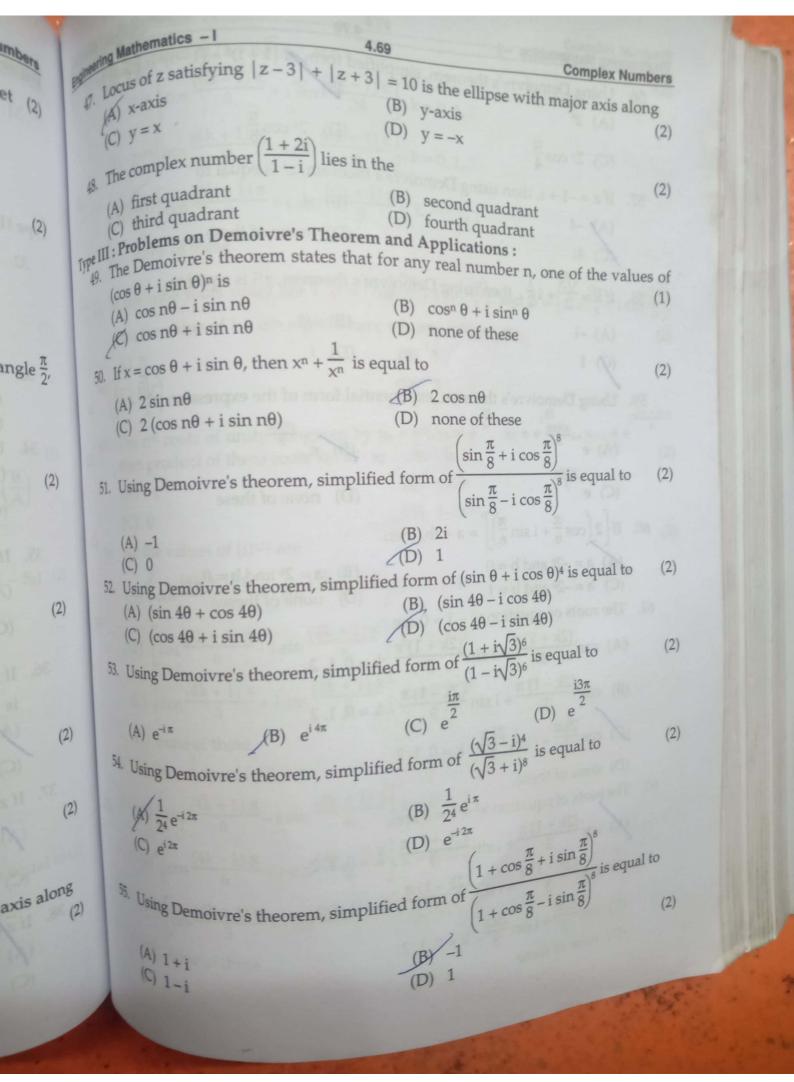


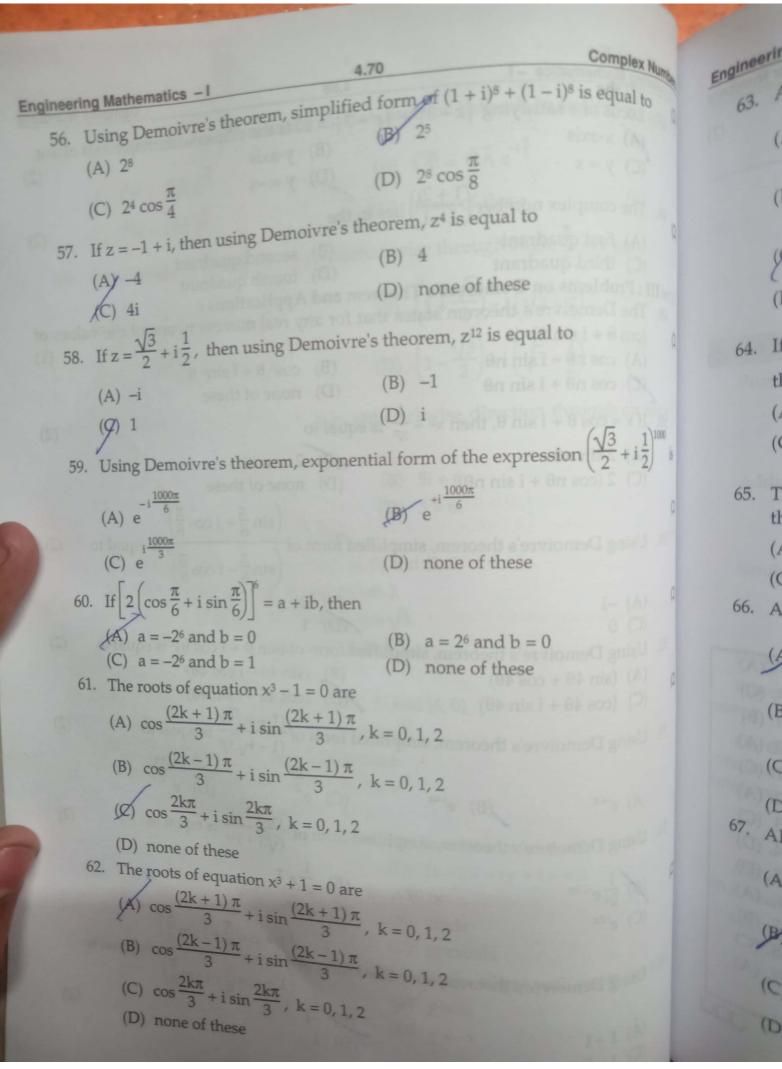












(D)

