

**FINITE ELEMENT METHODS
KEYS****I Choose the correct alternative:**

1. C
2. A
3. B
4. B
5. A
6. A
7. D
8. B
9. D
10. B

II Fill in the blanks

11. Constant strain triangle (CST)
12. 4
13. $\rho \frac{AL}{6} \begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix}$
14. Conduction
15. $J = \begin{pmatrix} \frac{\partial X}{\partial \xi} & \frac{\partial Y}{\partial \xi} \\ \frac{\partial X}{\partial \eta} & \frac{\partial Y}{\partial \eta} \end{pmatrix}$
16. Sub parametric
17. Rate of heat removal
18. $K_T = \frac{K_e}{l_e} \begin{pmatrix} 1 & -1 \\ -1 & 1 \end{pmatrix}$
19. W/ m² °C
20. Solid of revolution