Reg. No. :

Question Paper Code: 98766

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

One credit

Mechanical Engineering

19UME866- Limits, Fits And Tolerances

(Regulations 2019)

(Common to All branches)

Duration: 1.30 minutes   Maximum: 50 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1. How many tolerance grade are there as per Indian standards for basic size (i)   CO1- U
    Upto 500mm, (ii) above 500mm to 3150mm

2. Explain the meaning Φ50 H6   CO1- U

3. What is zero line   CO1- U

4. How many tolerance grade are there as per Indian standards for basic size   CO1- U

    (i) Upto 500mm, (ii) above 500mm to 3150mm

5. Explain the meaning Φ50 H6   CO1- U

6. Explain the upper deviation and lower deviation   CO2- U

7. What is fundamental deviation   CO2- U

8. What are the symbols used for fundamental deviation for the shaft and hole   CO2- U

9. What is zero line   CO2- U

10. What is mean by fit   CO2- U

PART – B (2 x 15= 30 Marks)

11. (a) Compute the fundamental deviation for a circular hole of 35mm   CO1-U   (15)
         diameter finished to H7 tolerance (Φ35 H7)

                                          Or

    (b) Explain fundamental deviation with neat sketch .   CO1-App   (15)

12. (a) i) Explain the hole basis system with neat sketch   CO2-App   (15)

ii) Explain the shaft basis system with neat sketch

<div align="center">Or</div>

(b) Compute the limit dimensions for a clearance fit on the hole basis   CO2-U   (15)
system for a basic size of 20mm diameter, with a minimum
clearance of 0.100mm, tolerance on the hole0.025mm and tolerance
on the shaft 0.050mm, explain with neat sketch.