Reg. No. : | | | | | | | | | | | | |

Question Paper Code: U8766

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2024

One credit

Mechanical Engineering

21UME866 – LIMITS, FITS AND TOLERANCES

(Regulations 2021)

Duration: 1.30 hours Maximum: 50 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1.	Distinguish between basic size and actual size	CO1-U
2.	What is tolerance explain	CO1-U
3.	What is zero line	CO1-U
4.	How many tolerance grade are there as per Indian standards for basic size (i) Up to 500mm, (ii) above 500 mm to 3150 mm	CO1-U
5.	Explain the meaning Φ50 H6	CO1-U
6.	List out the different types of fit	CO2-U
7.	Explain the clearance fit	CO2-U
8.	Explain the interference fit	CO2-U
9.	Explain the transition fit	CO2-U
10.	What is maximum and minimum limit	CO2-U

PART – B (2 x 15= 30 Marks)

11.	(a)	(i) What factors should be considered when selecting a fit for a specific application? (ii) Explain the use of GD&T (Geometric Dimensioning and Tolerancing) for specifying fits.	CO1- U	(15)
		Or		
	(b)	Explain the methods of indicating the fits in drawings.	CO1- U	(15)

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

Or

(b) (i) Explain the concept of statistical tolerance analysis. How does statistical tolerance analysis differ from traditional tolerance analysis? CO2- U (15)

(ii) How are tolerances indicated on angular dimensions on drawings? What are the common units for specifying angular tolerances?