KUMARAGURU
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B.E/B.TECH DEGREE EXAMINATIONS: NOV/ DEC 2024

(Regulation 2018)

Third Semester

MECHANICAL ENGINEERING

U18MET3005: Machine Drawing

COURSE OUTCOMES

CO1: Recall standard drawing notations from memory.

CO2: Demonstrate the understanding of the basic concepts of Machine drawing

CO3: Apply the principles of drawing while preparing component and assembly drawings.

CO4: Analyze the concepts of drawings and select the appropriate one to be used.

CO5: Evaluate the correctness of the drawing based on a set of criteria and making technical comments.

CO6: Create drawings by a combination of drawing principles.

Time: Four Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

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1.	List the different dimensioning systems.	CO1	[K$_1$]
2.	Draw the conventional representation for the spline shaft.	CO1	[K$_2$]
3.	Draw the symbols of lap and butt welded joints.	CO1	[K$_2$]
4.	Define tolerance.	CO2	[K$_1$]
5.	What meant by hole basis system?	CO2	[K$_1$]
6.	Give the meaning for the following symbol Ø50 H7/p6.	CO2	[K$_3$]
7.	Sketch the conventional representation of Concentricity and Angularity.	CO2	[K$_3$]
8.	What is meant by surface finish?	CO3	[K$_1$]
9.	Sketch double riveted double cover butt joint.	CO3	[K$_3$]
10.	What are the types of sectional views?	CO3	[K$_1$]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
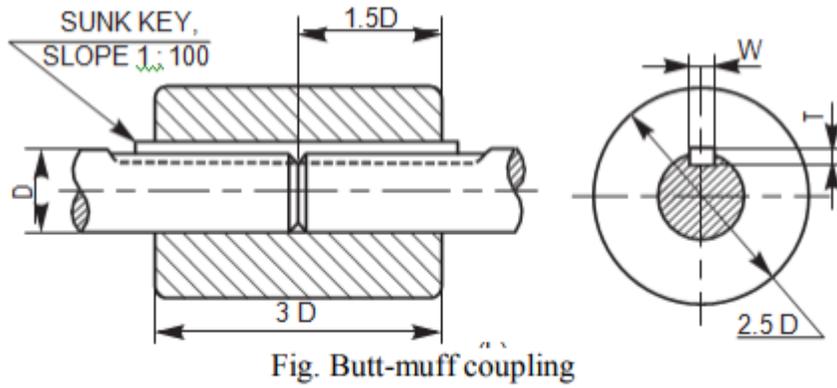**(Answer not more than 400 words)**

11.	a)	Sketch the conventional representation for the following parts.	8	CO1	[K$_3$]

    i. External thread   ii. Radial rib

    iii. Spur gear   iv. Cylindrical tension Spring

	b)	Draw any three types of riveted joints.	8	CO1	[K$_3$]

| 12. | Draw the following screw threads with its terminology, | 16 | CO1 | [K₄] |

12. Draw the following screw threads with its terminology, 16 CO1 [K4]

    i.   Metric thread   and

    ii.   Knuckle thread

13. a) Find the limit dimensions for an interference on the hole basis with the basic size of Ø 35 mm and maximum interference is 0.05 mm, tolerance on the hole is 0.025 mm and the tolerance on the shaft is 0.015 mm.   8   CO2   [K3]

   b) Compute the fundamental deviations for a circular shaft of 60 mm diameter with the tolerance grade of g6 using Empherical formulae.   8   CO2   [K4]

14. a) Draw a square headed bolt and nut, also give its features.   8   CO2   [K3]

   b) Explain the clearance fit system used in the engineering components.   8   CO2   [K2]

15. Assemble the given parts of the sleeve and cotter joint elements and draw the following views;   16   CO3   [K4]

    i.   Sectional front view ii. Top view and iii. Side view

SLEEVE AND COTTER JOINT
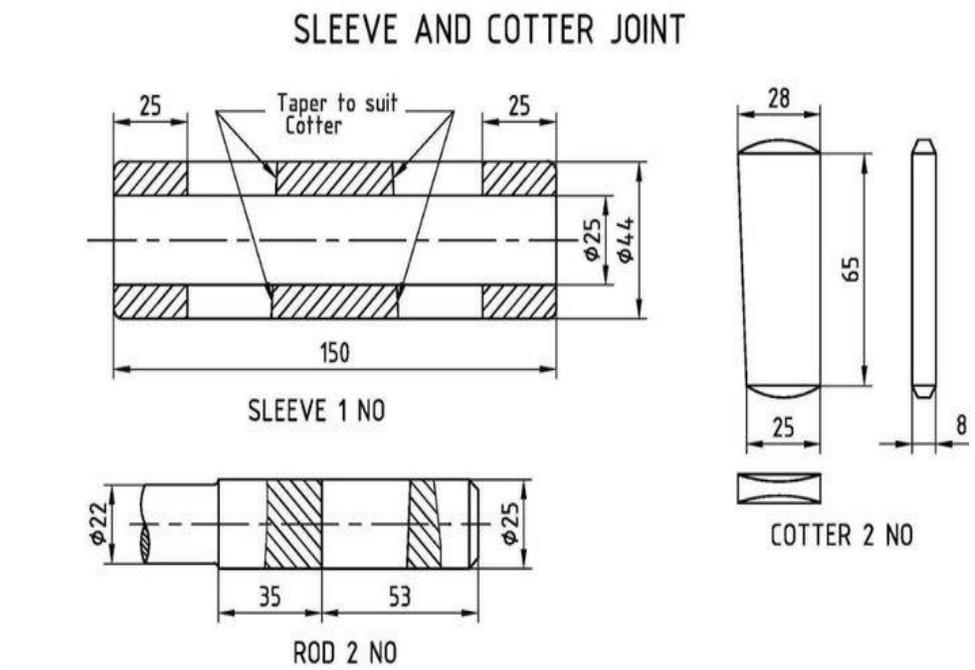
16.   Read and re-produce the part drawing for the given Butt –muff coupling.   16   CO3   [K₄]

Fig. Butt-muff coupling

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