Q.P. Code: 16ME326 **R16**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech IV Year I Semester Supplementary Examinations August-2022

METROLOGY & MEASUREMENTS

(Mechanical Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	**a**	Distinguish between 'Hole basis system' and 'Shaft basis system' of fits.	**6M**
	b	Define deviations. Explain types of deviations with the help of sketches.	**6M**
		OR	
2	**a**	Explain selective assembly.	**6M**
	b	List out types of assembly systems? Elaborate interchangeability.	**6M**
		UNIT-II	
3	**a**	State the principle of a micrometer. Explain with neat Sketch an outside micrometer.	**8M**
	b	Estimate possible sources of errors in micrometers.	**4M**
		OR	
4	**a**	Explain BIS symbols for indication of surface finish.	**7M**
	b	Name the two types of ideal indicators, draw a simple diagram of dial indicator	**5M**
		UNIT-III	
5	**a**	Evaluate (i) Outer diameter. (ii) Effective diameter. (iii) Core diameter. (iv) Pitch diameter	**6M**
	b	Describe measurement of effective diameter with two wire method with neat sketch.	**6M**
		OR	
6	**a**	With the help of an illustration, explain any two alignment tests on milling machine.	**6M**
	b	With the help of an illustration, list out any four radial drilling machine test.	**6M**
		UNIT-IV	
7	**a**	List out classification of tachometers? Elaborate DC tachometer generator with neat sketch.	**6M**
	b	Explain working of Photo-electric tachometer.	**6M**
		OR	
8	**a**	The most popular is the vibration seismic accelerator justify with Principle of seismic instrument with neat sketch.	**6M**
	b	Explain working Principle of Accelerometer with neat sketch.	**6M**
		UNIT-V	
9	**a**	Sketch a Mcleod gauge and explain working principles.	**6M**
	b	Describe applications and limitations of Mcleod gauge.	**6M**
		OR	
10	**a**	Discuss the U- tube Differential Manometer in detail. Derive the expression for pressure difference.	**6M**
	b	List out very high pressure measuring instruments and draw with neat sketch C type Bourdon tube.	**6M**

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