Q.P. Code: **19ME0361** **R19**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Regular Examinations January 2020

THERMAL & FLUID ENGINEERING

(Electrical & Electronics Engineering)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1		Explain the various elements of hydroelectric power station with a neat sketch**.**	**12M**
		OR	
2		What the different type feed water treatments in thermal power plant and explain any one.	**12M**

UNIT-II

3	**a**	Define property? Distinguish between intensive and extensive property.	**6M**
	b	Differentiate between the cyclic process and non-cyclic process.	**6M**
		OR	
4	**a**	State and explain second law of thermodynamics.	**7M**
	b	Derive an expression for the availability of an open system.	**5M**

UNIT-III

5	**a**	Explain the various operation of a Carnot cycle. Also represent it on T-S and P-V diagrams.	**6M**
	b	Find the change in enthalpy and entropy of steam, initial pressure 10 bar and 0.98 then it will reach 20 bar and 350 temperature.	**6M**
		OR	
6		Explain the following terms.	
	a	Change in enthalpy.	**3M**
	b	Forms of steams.	**3M**
	c	Sensible and latent heat.	**3M**
	d	Dryness fraction.	**3M**

UNIT-IV

7	**a**	Define the following fluid properties: Density, specific volume and specific gravity of a fluid.	**6M**
	b	Explain how a U tube manometer is used to measure both positive and negative pressures.	**6M**
		OR	
8	**a**	Define the equation of continuity. Obtain an express for continuity equation for a one-dimensional flow.	**8M**
	b	Define the surface tension and capillarity.	**4M**

UNIT-V

9		What is a venturimeter? Derive an expression for the discharge through a venturimeter.	**12M**
		OR	
10		Explain the pipes in series and derive equation for total loss of head in pipe.	**12M**

*** END ***