Enrollment No: _____ Exam Seat No: _____ C. U. SHAH UNIVERSITY Winter Examination-2019

Subject Name : Electrical Power System

Subject Code : 4TE05EPS1		Branch: B.Tech (Electrical)			
Semester : 5	Date : 21/11/2019	Time : 10:30 To 01:30	Marks : 70		
 Instructions: (1) Use of Programmable calculator & any other electronic instrument is prohibited. (2) Instructions written on main answer book are strictly to be obeyed. (3) Draw neat diagrams and figures (if necessary) at right places. (4) Assume suitable data if needed. 					
Q-1	Attempt the following question	18:	(14)		
a)	Which among these is not a conv (a) Wind (b) Gas (c) Coal (d		rgy?		
b)	Modern overhead transmission 1 distribution and transmission (a) True (b) False		oth		
c)	Power is transmitted over transm (a) Conductor cost is reduce (c) Efficiency is increased (d (b) Current is reduced	use		
d)	Power factor can be improved by (a) Static capacitors (b) Res (b) (d) Both (a) and (c).	y connecting which among these istors (c) Synchronous condense			
e)	· ·	power factor is due to the installa motors (c) Synchronous motors	ation of		
f)	What is the power factor tariff?				
	(a)It considers only maximum d				
	(b) It considers only semi fixed of(c) It considers only power factor	•			
	(d) It considers the load factor.	<i>и</i> .			
g)	Maximum demand tariff is appli				
h)	(d) All of these	sumers (c) Residential consumer	S		
II)	(a)Connected load (b)Units cons				
	(d) both b & C				
i)	Which among the following plan	nts have the least operating cost?			
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(a) Steam plants (b) Hydro plants (c) Nuclear plants

(d) Diesel plants

i) Utilisation factor is defined as the ratio of

(a)Average demand to the rated capacity of the plant.

(b) Maximum demand on the power plant to the rated capacity of the power plant.

(c) Rated capacity of the power plant to the maximum demand. (d) None of these

k) What is connected load?

(a)Installed electrical load in the premises of the consumer.

(b) Maximum load a consumer draws.

(c) Load drawn by a consumer at any instant.

(d) None of the above.

I) What is the load factor of a power plant?

(a) Greater than unity (b) Less than unity (c) Always more than unity (d)Normally more than unity

m) What is the shape of the load duration curve?

(a) Rectangular shape (b) Triangular shape (c) Parabolic shape

(d) Free hand sketch

n) The diesel plants are mainly used _____.

(a)as peak load plants .(b)as base load plants.

(c) as standby power plants.(d) both peak and stand by plants.

Attempt any four questions from Q-2 to Q-8

Q-2		Attempt all questions	(14)
	a	What are the factors to be considered for selection of the site for a thermal power station?	05
	b	What are the factors to be considered for the selection of a nuclear power station	r 05
	c	What are the components of a gas turbine plant?	04
Q-3		Attempt all questions	(14)
-	a	Write a short-note on different types of insulators used for overhead lines and their applications.	s 07
	b	Show how the sag of an overhead line can be calculated in case of supports at different levels.	07
Q-4		Attempt all questions	(14)
-	a	Explain the necessity of a stringing chart for a transmission line and show how such a chart can be constructed.	07
	b	State the classification of cables (according to voltage) and discuss their general construction.	07
Q-5		Attempt all questions	(14)
-	a	Define the following terms in connection with a power supply system:	08
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		(i) Connected load (ii) Maximum demand(iii) Demand factor (iv) Load factor	
	b	Explain the term of Tariff ? Explain in detail about Two part Tariff &	06
		Block rate tariff.	
Q-6		Attempt all questions	(14)
-	а	Draw the structure of electrical power system. Explain in detail about	07
		each part of the power system.	
	b	Define the following terms in connection with a power supply system:	07
		(i) Diversity Factor (ii) Average demand	
		(iii) Plant capacity factor (iv) Load duration curve	
Q-7		Attempt all questions	(14)
-	а	Write Short Note on : Stringing Chart	07
	b	Write Short Note on :Ferranti effect	07
Q-8		Attempt all questions	(14)
-	а	Write Short Note on : Testing of Insulators	07
	b	Write Short Note on : Hydro power plant	07

