

GUJARAT TECHNOLOGICAL UNIVERSITY

B.VOC- SEMESTER-IV EXAMINATION – SUMMER 2025

Subject Code:1140701

Date:09-05-2025

Subject Name: Introduction to Wind Energy Engineering

Time:10:30 AM TO 12:30 PM

Total Marks:50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) How is wind circulation generate in atmosphere? explain in detail.	05
	(b) What are the criteria for site selection of wind power plant?	05
Q.2	(a) Explain the Ultrasonic anemometer for wind speed measurement.	05
	(b) Give the comparison between LiDAR and SODAR.	05
OR		
	(b) Explain key parameters for wind assessment.	05
Q.3	(a) How many types of wind turbine are present in wind power? Explain any one type.	05
	(b) What is Lift force and Drag force? Explain in detail.	05
OR		
Q.3	(a) Define the terms: a)Cut in speed, b)Cut out Speed, c)Rated speed, d)Pitch control, e) Yaw control,	05
	(b) Define power output equation for wind energy.	05
Q.4	(a) Explain construction and working of induction generator in wind power..	05
	(b) What is wind turbine-load characteristics? Explain in detail.	05
OR		
Q.4	(a) Explain construction and working of Dubli-fed induction generator.	05
	(b) What is bets limit? Explain in detail.	05
Q.5	(a) Explain the routine maintenance procedures of wind turbine.	05
	(b) Discuss the issues related to grid interconnection of wind farms.	05
OR		
Q.5	(a) What is troubleshooting in wind turbines?	05
	(b) What is micro-siting of wind electric generators? Explain in detail.	05
