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

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.
(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc. PHYSICS

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
V	PART – III	CORE ELECTIVE	U21PH5E1A	ENERGY PHYSICS

Date & Session: 30.04.2025/AN **Time: 3 hours** **Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	**SECTION – A (10 X 1 = 10 Marks)** **Answer ALL Questions.**
CO1	K1	1.	An example of non – conventional energy source is _____. a) coal b) wind c) oil d) natural gas
CO1	K2	2.	Photovoltaic energy is the conversion of sunlight into _____. a) chemical energy b) Bio gas c) electricity d) Geothermal energy
CO2	K1	3.	The angle made in the plane surface with the horizontal is known as _____ a) Latitude b) slope c) Declination d) Inclination angle
CO2	K2	4.	The Standard value of solar constant is _____. a) 1 kW/m^2 b) 1.367 kW/m^2 c) 1.5 kW/m^2 d) 5 kW/m^2
CO3	K1	5.	Typical open circuit voltage of a solar cell_____. a) 12 V b) 6 V c) 3 V d) 0.5V
CO3	K2	6.	The output power of solar cell is of the order of _____. a) 1 W b) 5 W c) 10 V d) 20 W
CO4	K1	7.	Marsh gas is _____. a) Methane b) CO_2 c) CCl_4 d) Oxygen
CO4	K2	8.	The main components of bio-gas is a) Oxygen b) CO_2 c) Ethylene d) Methane
CO5	K1	9.	The part of the wind mill that generates electricity is a) Turbine b) Blades c) Tower d) Transformer
CO5	K2	10.	The by-product of Hydrogen cell is _____ a) Pure water b) Hydrogen c) Oxygen d) KOH
Course Outcome	**Bloom's K-level**	**Q. No.**	**SECTION – B (5 X 5 = 25 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	11a.	Examine India's production and reserves of energy sources. **(OR)**
CO1	K3	11b.	Interpret the non renewable sources of energy.

CO2	K3	12a.	Illustrate the merits and demerits of Solar energy. **(OR)**
CO2	K3	12b.	Explain the construction and working of the solar distillation plant.
CO3	K4	13a.	Explain the working principle of photovoltaic cell. **(OR)**
CO3	K4	13b.	Investigate the working principle of a PV-powered fan.
CO4	K4	14a.	Analyze the classification of biomass. **(OR)**
CO4	K4	14b.	Give the advantages and disadvantages of Biomass energy source.
CO5	K5	15a.	Compare horizontal and vertical axis wind turbines. **(OR)**
CO5	K5	15b.	Discuss about the principle and working of hydrogen cell.

Course Outcome	**Bloom's K-level**	**Q. No.**	**SECTION – C (5 X 8 = 40 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	16a.	Examine world's production and reserves of energy sources. **(OR)**
CO1	K3	16b.	Interpret the coal's formation and their types.
CO2	K4	17a.	With relevant theory, explain the working of liquid flat plate collector **(OR)**
CO2	K4	17b.	Examine the principle and working of a box-type solar cooker.
CO3	K4	18a.	Deduce an expression for maximum power output of the solar cell. **(OR)**
CO3	K4	18b.	Explain the various types of solar cells.
CO4	K5	19a.	Explain the fixed dome plant and its functioning. What are it advantages and disadvantages? **(OR)**
CO4	K5	19b.	Discuss the thermal gasification and explain the construction and working of the downdraft gasifier.
CO5	K5	20a.	With a suitable diagram explain Ocean Thermal Energy Conversion (OTEC). **(OR)**
CO5	K5	20b.	Discuss hydrogen as an alternate fuel for motor vehicles.