Reg. No. :

## **Question Paper Code: 47304**

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Seventh Semester

Electrical and Electronics Engineering

14UEE704 - ELECTRIC POWER UTILIZATION AND ENERGY CONSERVATION

(Regulation 2014)

Duration: One hour

Maximum: 30 Marks

PART A -  $(6 \times 1 = 6 \text{ Marks})$ 

## (Answer any six of the following questions)

- 1. Which of the following is preferred for traction work?
  - (a) Universal motor (b) DC series motor
  - (c) Synchronous motor (d) Three phase induction motor
- 2. The unit of luminous flux is
  - (a) Steradian (b) Candela (c) Lumen (d) Eddy current
- 3. Candela is the unit of which of the following quantity

(a) Wave length (b) Luminous intensity (c) Luminous flux (d) Frequency

- 4. The lighting which is mainly used for indoor light decoration purpose is
  - (a) Direct lighting (b) Indirect lighting
  - (c) Semi-direct lighting (d) Semi-indirect lighting
- 5. The transfer of heat within a fluid by mixing of one portion of the fluid with another is called as

	(a) Convection	(b) Conduction	(c) Radiation	(d) Reflection
6.	A filler metal in the form of a wire or rod used in the welding process is known			rocess is known as

(a) Crater (b) Clamp (c) Flux (d)Electrodes

## 7. Which of the following instrument is used to measure the solar radiation?

(a) Pyranometer (b) Anemometer (c) radiometer (d) Aerogenerator

- 8. A concentration type solar collector
  - (a) First absorbs the radiation and then increases its concentration
  - (b) Increases the density of solar radiation before absorbing it
  - (c) Dilutes the density of solar radiation before absorbing it
  - (d) Increases the intensity of solar radiation and then reflects it back
- 9. The range of wind speed suitable for wind power generator is

(a) 0 to 5 m/s (b) 5 to 25 m/s (c) 25 to 50 m/s (d) 50 to 75 m/s

- 10. The maximum available wind power is
  - (a) Directly proportional to square of the wind speed
  - (b) Indirectly proportional to square of the wind speed
  - (c) Directly proportional to cube of the wind speed
  - (d) Indirectly proportional to cube of the wind speed

PART – B (3 x 8= 24 Marks)

## (Answer any three of the following questions)

- 11. What are the various types of Electric breaking used in traction? Discuss in detail. (8)
- 12. Describe the construction and working of sodium vapour lamp. (8)
- 13. Explain the working principle of induction heating. Explain the working, advantages and drawbacks of direct core type induction furnaces. (8)
- 14. Describe with relevant diagram, sun's altitude, zenith and azimuth angles for solar radiation analysis..(8)
- 15. Explain the basic components of wind energy conversion system with relevant block diagram. (8)