



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Diploma in Electronics & Communication Engineering

Course Name – Renewable Energy

Course Code - DECE604

(Semester VI)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) Which of the following are renewable energy resource?

a) Solar	b) Wind
c) Geothermal	d) All of above
- (2) When solar radiation falls on earth surface, the temperature of

a) Land mass raises faster than water	b) Land mass raises slower than water
c) Land mass and water raises uniformly	d) Land mass raises but of water remains at fixed level
- (3) Maximum wind energy available is proportional to

a) Air density	b) (Wind velocity) ³
c) (Rotor diameter) ²	d) All of above
- (4) Which of the following area is preferred for solar power plants?

a) Coastal areas	b) Hot arid areas
c) Mountain areas	d) High rainfall areas
- (5) Photo voltaic cell converts

a) Chemical energy to electrical energy	b) Solar radiation into electrical energy
c) Solar radiation into thermal energy	d) Thermal energy into electrical energy
- (6) The efficiency of solar cells is about

a) 25%	b) 15%
c) 40%	d) 60%
- (7) Wind energy can be used to

a) generate electricity	b) operate flour mills
c) draw underground water	d) all of the above
- (8) Wind energy is harnessed as _____ energy with the help of windmill or turbine.

a) mechanical	b) solar
c) electrical	d) heat

- c) Hourly beam radiation / Hourly diffuse radiation d) Hourly diffuse radiation / Hourly beam radiation
- (24) Uneven heating occurs on land surface and water bodies are due to _____
- a) Air Currents b) Solar radiation
c) Lunar eclipse d) None of the above
- (25) Wind energy is harnessed as _____ energy with the help of windmill or turbine.
- a) Mechanical b) Solar
c) Electrical d) Heat
- (26) How much wind power does India hold?
- a) 20,000 MW b) 12,000 MW
c) 140,000 MW d) 5000 MW
- (27) What type of energy is wind energy?
- a) Renewable energy b) Non-renewable energy
c) Conventional energy d) Commercial energy
- (28) What is the diameter of wind turbine blades?
- a) 320 feet b) 220 feet
c) 80 feet d) 500 feet
- (29) When was the first electric car invented?
- a) 1830 b) 1985
c) 1832 d) 1945
- (30) What type of Motor Used in Electric Vehicles?
- a) DC Motor b) AC Motor
c) AC and DC both d) None of the above
- (31) This is also called a biogas
- a) biobutanol b) bodies
c) bioethanol d) biomethane
- (32) Bioethanol is mixed with _____ to prepare transport fuel
- a) oil b) petrol
c) kerosene d) diesel
- (33) The aerobic digestion of sewage is utilized in the production of
- a) metal articles b) biofuels
c) biomass d) synthetic fuels
- (34) The efficiency of a solar cell may be in the range
- a) 2 to 5% b) 10 to 15%
c) 30 to 40% d) 70 to 80%
- (35) Which of the following constitutes the major load for an automobile battery?
- a) Brake light b) Self-starter
c) Parking lights d) Spark plugs
- (36) Battery container should be acid resistance therefore it is made up of
- a) Glass b) Plastic
c) Wood d) All of the above
- (37) In a fuel cell cathode is of
- a) Oxygen b) Ammonia
c) Hydrogen d) Carbon monoxide
- (38) The current density of a photo voltaic cell ranges from
- a) 10 – 20 mA/cm² b) 40 – 50 mA/cm²

- a) UV, infrared and far infrared
 c) Ultrasonic, infrared and visible
- b) UV, visible and infrared
 d) UV, ultrasonic and near infrared
- (54) What is direct solar radiation?
- a) Solar radiation directly received by earth's surface from sun
 c) Solar radiation received by earth's surface after reflection
- b) Cosmic radiation directly received by earth's surface
 d) Cosmic radiation received by earth's surface after reflection
- (55) What is aperture area in a solar collector?
- a) Area of the system
 c) Area occupied by the system after installation
- b) Area in the receiver that receives the solar radiation
 d) Cross-sectional area of the receiver
- (56) Why is a transparent cover used in a flat plate collector?
- a) To maximize transmission of the incident sunlight into the box
 c) To entirely reflect the incident sunlight back
- b) To minimize transmission of the incident sunlight into the box
 d) To ensure partial transmission of the incident sunlight into the box
- (57) Evacuated flat-plate solar collectors are a type of _____
- a) concentrating collectors
 c) non-concentrating collectors
- b) photovoltaic technology
 d) solar stills
- (58) Which of the following is used to make a glass-glass evacuated tubes?
- a) Borosilicate glass
 c) Wood
- b) Carbon
 d) Plastic coating
- (59) Why does flat plate collector perceived to have higher efficiency than evacuated tube solar collector in terms of area?
- a) Because flat plate collector has a large installation area
 c) Because of the vacuum gap in evacuated tube collectors
- b) Because evacuated tube collector is compact
 d) Because of the vacuum gap in flat plate collectors
- (60) Which of the following are combined to form an evacuated flat plate solar collector?
- a) Flat plate solar collectors and evacuated-tube solar collectors
 c) Bowl collectors and evacuated-tube solar collectors
- b) Flat plate solar collectors and bowl collectors
 d) Polymer collectors and bowl collectors