

U.G. 3rd Semester Examination - 2020**PHYSICS****Course Code : BPHSSERT304****Course Title : Renewable Energy and Energy Harvesting**

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate marks.

Answer all the questions by choosing correct alternative:

2×25=50

1. Which of the following is (are) renewable resource(s)?
 a) wind b) tides c) geothermal heat d) all of the above
2. Photovoltaic cell converts solar energy into–
 a) heat energy b) electric energy c) mechanical energy d) chemical energy
3. In which of the following region winds are stronger and constant?
 a) deserts b) offshore c) low altitude sites d) all of the above
4. Ocean waves can produce electricity using a/an–
 a) Oscillating water column b) Power water column
 c) Pressure water column d) Tidal water column
5. Solar radiation includes–
 a) radio waves and ultra-violet light b) visible and infrared light
 c) X-rays and gamma rays d) all of the above
6. The difference, in temperature between the core of the planet and its surface, is known as–
 a) geothermal coefficient b) geothermal gradient
 c) geothermal constant d) none of the above
7. Which of the following is indirect method of solar energy utilization?
 a) wind energy b) biomass energy c) wave energy d) all of the above
8. Which of the following represents the piezoelectric materials?
 a) quartz b) bermalite c) ADP d) all of the above
9. Hydraulic turbine converts hydro energy into mechanical by using _____ of water.
 a) Kinetic energy b) Potential energy c) both (a) and (b) d) None of the above
10. Biomass heating with deficiency of oxygen is called–
 a) pyrolysis b) fermentation c) gasification d) none of the above
11. Which of the following converts the dynamic pressure (kinetic energy) into static pressure?
 a) Conduits b) Penstock c) Runner d) Draft tube
12. Which biofuel can be made from corn or sugarcane?
 a) gasoline b) diesel c) LPG d) ethanol

13. Absorption of solar radiations by the earth occurs due to presence of—
a) ozone b) water vapour c) carbon di-oxide d) all of the above
14. Which renewable resource generate maximum power in India?
a) wind b) solar c) geothermal d) biomass
15. On what does generation of Hydro power depend?
a) Quantity of water available b) On capacity of turbine
c) Height of head d) Storage capacity
16. Piezoelectric effect is when materials produce electric charges when—
a) Voltage is applied b) Mechanical Stress is applied
c) Electric field is applied d) Magnetic field is applied
17. The time between high tide and low tide at any given location is—
a) 6 hours b) 6 hours 10 minutes
c) 6 hours 13 minutes d) 6 hours 26 minutes
18. Piezoelectricity is shown by substances which are—
a) Polar b) Non-polar c) Symmetric d) Asymmetric
19. Kinetic energy that results from the oscillation of water is called—
a) Wave energy b) Tidal energy
c) Ocean thermal energy d) Hydro energy
20. What is major disadvantage of wave energy?
a) It is not efficient enough b) It is available only in ocean
c) The harnessing cost is more d) Unstable during high wind pressures
21. Biomass is useful to produce—
a) Chemicals b) Fibres c) Biochemicals d) Transportation fuels
22. PEC means—
a) photoelectrocarbon b) photoelectrochemical
c) photoelectrocell d) photoemitted carbon
23. Material used for making solar cell is—
a) Silicon b) Carbon c) Sodium d) Magnesium
24. Which of the following has the lowest efficiency?
a) Solar energy b) Wind energy c) Wave energy d) OTEC
25. The full form of MFC is—
a) Mono-Fiber composites b) Micro-Fiber composites
c) Macro-Fiber composites d) None of the above
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