Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester VIII

Course code: MEE8022 course name: Renewable energy sources

Time: 1 hour Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1.  | India’s total primary energy consumption is \_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | 24.3 quadrillion BTU |
| Option B: | 19.01 quadrillion BTU |
| Option C: | 120 quadrillion BTU |
| Option D:  | 30.1 quadrillion BTU |
|  |  |
| Q2. | How many forms of fossil fuels are there\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | One |
| Option B: | Two |
| Option C: | Three |
| Option D: | Four |
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| Q3. | Which energy accounts for largest share in the renewable energy basket of India? |
| Option A: | Wind |
| Option B: | Nuclear |
| Option C: | Hydel |
| Option D: | Solar |
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| Q4. | Which of the following is not a renewable source of energy? |
| Option A: | Nuclear Energy |
| Option B: | Energy from Waste |
| Option C: | Hydropower |
| Option D: | Biomass |
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| Q5. | The production of bio ethanol is by fermenting the \_\_\_\_\_\_\_\_\_ and starch components. |
| Option A: | Acid |
| Option B: | Milk |
| Option C: | Sugar |
| Option D:  | Alcohol |
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| Q6. | Which part of the wind mill acts as a housing for the turbine? |
| Option A: | Wind Vane |
| Option B: | Shaft |
| Option C: | Wind mill head |
| Option D:  | Turbine |
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| Q7.  | Theoretical maximum efficiency of wind power is about |
| Option A: | 30% |
| Option B: | 48% |
| Option C: | 59% |
| Option D:  | 65% |
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| Q8.  | Which type of windmill has better performance? |
| Option A: | Vertical type wind mills |
| Option B: | Darrieus type machines |
| Option C: | Magnus effect rotor |
| Option D:  | Horizontal type windmills |
|  |   |
| Q9. | A wind turbine designed to come into operation at a minimum wind speed is called |
| Option A: | Cut in velocity |
| Option B: | Cut out velocity |
| Option C: | Windward |
| Option D:  | Upwind |
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| Q10.  | What is the inherent weakness of all wind machines? |
| Option A: | Their efficiencies  |
| Option B: | Requires powerful winds to make fan rotate |
| Option C: | Their dependency on the wind speed |
| Option D:  | Cannot be easily repaired |
|  |  |
| Q11.  | Yaw control is the part of |
| Option A: | Solar concentration collector |
| Option B: | OTEC devices |
| Option C: | Biomass energy generator |
| Option D:  | Wind energy conversion system |
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| Q12.  | Around how much percentage, the incident radiant flux can be absorbed by the materials present on earth? |
| Option A: | 48 % |
| Option B: | 37 % |
| Option C: | 43 % |
| Option D: | 50 % |
|  |  |
| Q13. | Solar radiation which reaches the surface without scattering or absorbed is called |
| Option A: | Beam Radiation |
| Option B: | Infrared radiation |
| Option C: | Ultraviolet radiation |
| Option D:  | Diffuse radiation |
|  |  |
| Q14.  | Most widely used solar material is |
| Option A: | Arsenic |
| Option B: | Silicon |
| Option C: | Cadmium |
| Option D:  | Steel |
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| Q15. | In extraterrestrial radiation has a wavelength in the range of |
| Option A: | 0.2 to 4 μm |
| Option B: | 0.2 to 5 μm |
| Option C: | 0.2 to 8 μm |
| Option D:  | 0.2 to 10 μm |
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| Q16.  | Energy management is a key component of |
| Option A: | Environmental management |
| Option B: | Carbon management |
| Option C: | Nitrogen management |
| Option D:  | Water management |
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| Q17. | On what is two-pool tidal system is less dependent? |
| Option A: | Barrage |
| Option B: | Tidal fluctuation |
| Option C: | Reservoir |
| Option D: | Gravitational force |
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| Q18. | Compared to the open-cycle system, a closed cycle OTEC system has |
| Option A: | higher working pressure in boiler/turbine and lower specific volume of working fluid |
| Option B: | lower working pressure in boiler/turbine and higher specific volume of working fluid |
| Option C: | higher working pressure in boiler/turbine and higher specific volume of working fluid |
| Option D:  | lower working pressure in boiler/turbine and lower specific volume of working fluid |
|  |  |
| Q19.  | “The judicious and effective use of energy to maximise profits and enhance competitive positions”. This can be the definition of:  |
| Option A: | Energy conservation  |
| Option B: | Energy management  |
| Option C: | Energy policy  |
| Option D:  | Energy Audit |
|  |  |
| Q20. | The percentage of energy saved at the current rate of use, compared to the reference year rate of use, is called |
| Option A: | Energy Utilization |
| Option B: | Energy Performance  |
| Option C: | Energy Efficiency  |
| Option D: | Energy policy |
|  |  |
| Q21. | Energy consumption per unit of GDP is called as: |
| Option A: | Energy Ratio  |
| Option B: | Energy intensity |
| Option C: | Per capita consumption  |
| Option D:  | gross domestic consumption |
|  |  |
| Q22.  | India’s energy intensity is \_\_\_ times of world average. |
| Option A: | 1.5  |
| Option B: | 2.5  |
| Option C: | 3.6  |
| Option D:  | 10 |
|  |  |
| Q23. | An energy policy does not include  |
| Option A: | Target energy consumption reduction  |
| Option B: | Time period for reduction |
| Option C: | Declaration of top management commitment  |
| Option D:  | Future production projection |
|  |  |
| Q24.  | An energy audit team is formed during  |
| Option A: | post audit phase  |
| Option B: | audit phase  |
| Option C: | pre-audit phase  |
| Option D:  | the time of study  |
|  |  |
| Q25. | Which of the following is not part of energy monitoring  |
| Option A: | data recording  |
| Option B: | data analysis  |
| Option C: | data reporting  |
| Option D: | energy efficiency equipment financing  |