| Seat No.: | Enrolment No. |
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GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER - VI • EXAMINATION - WINTER 2012

| Subject code: 161904 Date: 05/01 | | 2013 | |
|----------------------------------|------------|---|-------------|
| Subje | ect l | Name: Alternate Energy Sources | |
| Time | : 02 | 2.30 pm - 05.00 pm Total Marks: | : 70 |
| Instr | uct | ions: | |
| | 2. | Attempt any five questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. | |
| Q.1 | (a) (b) | | 07 07 |
| Q.2 | (a) (b) | | 07 07 |
| | (b) | <u> </u> | 07 |
| Q.3 | (a) | Derive an equation for maximum power, maximum torque and maximum axial thrust available from wind turbine. What is Optimum velocity? | 07 |
| | (b) | Write a brief note on effect of various parameters on performance of flat plate collectors. | 07 |
| Q.3 | (a) | OR Write down advantages and disadvantages of MHD Power plant system. | 07 |
| | (b) | Write a short note on vapour dominated hydrothermal system. | 07 |
| Q.4 | (a) | Explain construction and working of open cycle OTEC system with the help of schematic diagram. | 07 |
| | (b) | * | 07 |
| | | OR | |
| Q.4 | (a) | Write a difference between Conventional steam power plant and Geothermal power plants. | 07 |
| | (b) | Explain factors affecting in site selection for wind power plant. | 07 |
| Q.5 | (a) | Define following terms with necessary figure. (1) Sunrise/Sunset hour angle (2) Solar tilt angle (3) Solar altitude angle (4) Declination Angle (5) Day length (6) Surface azimuth angle | 07 |
| | (b) | pond. | 07 |
| Q.5 | (a) | OR Write a short note on Tidal power plant with double basin system. | 07 |
| Ų.S | (a) (b) | e e | 07 |
