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## GUJARAT TECHNOLOGICAL UNIVERSITY BARCH - SEMESTER-III- • EXAMINATION - SUMMER 2015

|     | Subje      | ect Code:1035005 Date: 19/05/201  | 5         |
|-----|------------|---|-----------|
|     | •          | <ol> <li>Attempt all questions.</li> <li>Make suitable assumptions wherever necessary.</li> </ol>   | <b>60</b> |
|     |            | 3. Figures to the right indicate full marks.  |           |
| Q.1 | (a)        | Which are the five major climates of India? Describe characteristics of any one climate in detail.  | 05        |
|     | <b>(b)</b> | Describe design principles of warm-humid climate with diagrams.   | 05        |
| Q.2 | (a)        | <ul><li>Explain following terms with necessary diagrams (Any 5):</li><li>1. Trombe Wall, 2. Stack Ventilation, 3. Water wall, 4. Wing wall</li><li>5. Wind tower, 6. Wind tunnel, 7. Doldrums</li></ul>       | 05        |
|     | <b>(b)</b> | Describe the three ways of how earth-sun relationship affect the amount of solar radiation received at the particular point of the earth surface?  OR   | 05        |
|     | <b>(b)</b> | What is wind? How does Wind generate? How Coriolis force affect global wind pattern?  | 05        |
| Q.3 | (a)<br>(b) | Why Ventilation is needed in building? How to achieve good ventilation in building?   | 05<br>05  |
|     |            | OR  |           |
| Q.3 | (a)<br>(b) | How MVHR System works in cold climate?<br>Explain different elements of climate.  | 05<br>05  |
| Q.4 | (a)<br>(b) | What is light? Explain behaviors of light when received by any object.  Describe importance of courtyard & skylights for natural lighting with diagrams.  | 05<br>05  |
|     |            | OR  |           |
| Q.4 |            | Explain following terms with necessary diagrams (Any 5)  1. Reflectance 2. Transmittance 3. Refraction 4. Diffusion 5. Luminance 6. Luminous Flux 7. Glare  What is daylight? Describe Advantages of daylight | 05        |
|     | <b>(b)</b> | What is daylight? Describe Advantages of daylight.  | 05        |
| Q.5 |            | Describe any climate responsive traditional building form with diagrams.  | 10        |
|     |            | OR  |           |
| 0.5 |            | Describe any climate responsive modern building with diagrams.  | 10        |

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