DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE
End Semester Examination – DECEMBER - 2018

Branch: M.Arch (Environmental) **Semester:** I

Subject and Subject Code: CLIMATE RESPONSIVE DESIGN-I MAREA10100002

Date: 06/12/2018 **Marks:** 60 Marks **Time:** - 3 Hours

Instructions: *- 1. ALL QUESTIONS are compulsory*
2. Draw proper sketches wherever necessary.

Q. No.I: - Answer the following (Long Answer) (1 x 15M = 15 Marks)

Explain the characteristics of HOT and DRY Climate. Write about general recommendation to design a building in HOT and DRYclimate. Draw supportive sketches.

Q. No. II: - Answer the following (any FOUR) (4 X 5M = 20 Marks).

1. Explain air flow around the building with proper sketches.
2. Define solar altitude angle and solar azimuth angle which proper sketches.
3. What do the following terms stand for in thermal balance equation
   a. Q_c. b. Q_v. c. Q_s. d. Q_i
   State the formulas for calculating each of the above term.
   Also state the equation for thermal balance calculation.
4. Write a descriptive note on shading devices. Draw supportive sketches.
5. Explain STACK VENTILATION with proper sketches.
6. Define HSA and VSA. State the formula used for calculating HSA, VSA. Also mention where specifically each of the angles is used?

Q. No. III: - Answer the following (15 Marks).

1. Explain any two passive design strategies out of the following: (8 Marks).
   a. Water bodies.
   b. Fenestrations.
   c. Vegetation.
2. State any six elements of climate and explain any two of them in detail. (7 Marks)

Q. No. IV: - Fill in the blanks (any FIVE) (5 X 2M = 10 Marks).

1. Unit of measuring ABSOLUTE HUMIDITY is _____.
2. GUWAHATI has _____ climate type.
3. STEVENSON SCREEN is used to measure _____.
4. ATMOSPHERIC HUMIDITY can also be expressed in terms of _____.
5. Unit of measuring SOLAR RADIATION is _____.
6. _____ instrument is used to measure WINDS.
7. A collective term used for rain, snow, hail, dew, and frost is _____.

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