Registration No : | | | | | | | | | | |

Total Number of Pages : 01 **B.Arch**
AR352

3rd Semester Back Examination 2019-20
CLIMATOLOGY
BRANCH : B.Arch
Time : 3 Hours
Max Marks : 70
Q.CODE : HB809

Answer Question No.1 which is compulsory and any FIVE from the rest.
The figures in the right hand margin indicate marks.

Q1 **Answer the following questions :** **(2 x 10)**

a) How "stack effect" keeps the indoor air cool?
b) State the Maximum temperature limit of comfort zone in most tropical regions.
c) What is mean by Monthly Mean Temperature data?
d) Name five elements of climate.
e) Write the difference between micro and macro climate.
f) What is deep body temperature? How is it regulated by external changes?
g) Write the expression for corrected effective temperature (CET) and how it is calculated?
h) The opposite side of mountain slope along the wind direction is called. _____
i) What is sky-component of Day-lighting?
j) State the full name of ITCZ

Q2 **a)** What is Effective Temperature Nomogram? How corrected Effective temperature can be calculated from ETN? Explain with sketches. **(5)**
b) Explain briefly different 'site climate" factors which are to be considered before designing a project **(5)**

Q3 **a)** Design the form & planning principles for shelter in warm-humid climate. **(5)**
b) Illustrate wind rose wheel graph and explain different climatic information which can be observed from it. **(5)**

Q4 **a)** Explain with suitable sketches the concept of ventilation by Stack Effect. **(5)**
b) Explain different insulation materials and techniques which can be used for passive cooling of a building. **(5)**

Q5 **a)** Explain how Earth's thermal balance is achieved. **(5)**
b) Describe with sketch effect of different landscape elements on shelter design? **(5)**

Q6 Elaborate the criteria of designing shelter in hot-dry climate. **(10)**

Q7 Explain the process of Day-lighting techniques in residential design. **(10)**

Q8 **Write short Notes on any TWO :** **(5 x 2)**

a) Glare and various Fenestration Design concepts to minimize its effect on indoor lighting.
b) Sun path Diagram
c) Building material and Construction in Tropical Climate