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

Total Number of Pages : 01 **M.Arch**

PEHD5101

1st Semester Regular/Back Examination 2019-20
CLIMATOLOGY AND SOLAR ARCITECTURE
BRANCH : HABITAT
Time : 3 Hours
Max Marks : 70
Q.CODE : HRB715

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) What are the different types of settlement pattern?
b) What is igloo?
c) Define anthropogenic heat.
d) What is thermal mass?
e) What is urban canopy?
f) Why wind tunnel testing is necessary for tall buildings?
g) What is wind load?
h) What is renewable energy?
i) What are parabolic reflectors?
j) What is equinox?

Q2 **a)** Describe stack effect. **(5)**
b) Describe Monroe phenomenon. **(5)**

Q3 **a)** What are the drivers of global climate change? **(5)**
b) What is Urban heat island and what measures can be taken to reduce it? **(5)**

Q4 **a)** Explain Venturi effect. **(5)**
b) Explain the different methods to reduce wind load on buildings with sketches. **(5)**

Q5 **a)** Discuss micro, meso and macro climate. **(5)**
b) Discuss how climate and geography has affected early settlement pattern in Arid regions in India with sketches? **(5)**

Q6 What are the different elements of passive solar design? Explain it through a neat sketch. **(10)**

Q7 Discuss the possible ways to tackle climate change through planning, building guidelines and policy making. **(10)**

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

a) Roof Pond
b) Trombe Wall
c) Active solar systems