Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

SEVENTH SEMESTER B. ARCH. DEGREE EXAMINATION – DEC 2019/JAN 2020

SUBJECT: ARC-14-411.1 – VASTUVIDYA

(2014 SCHEME)

Wednesday, January 08, 2020

Time: 10:00 – 13:00 Hrs. Max. Marks : 50

- **Answer any FIVE FULL questions.**
- **Give neat sketches wherever relevant. Assume any missing data appropriately.**

1A. How was cardinal directions determined in traditional construction procedure? Also explain 'yoni' system of linking perimeter and orientation of a building.

1B. Explain the method of providing openings in traditional architecture. What were the objectives and challenges?

(6+4 = 10 marks)

2A. Explain measurement system in traditional architecture.

2B. Explain how 'set-back' and ground coverage were controlled in traditional planning? Illustrate for 8×8 and 9×9 grids.

2C. Derive length of common rafter(L) including eave projection from perimeter (P) of a building. State assumptions at every stage.

(3+4+3 = 10 marks)

3A. Explain the traditional timber framed structures describing the salient features. Also explain how type-designs and timber-industry supported each other.

3B. Explain the step-by step procedure of arriving at plan layout for a *sabha-* in a given plot.

(5+5 = 10 marks)

4. **Explain the following:**

4A. Traditional hipped-roof

4B. *ishtadeergha* method

4C. *trishaala*

4D. Relevance of perimeter description system

(2½ marks × 4 = 10 marks)

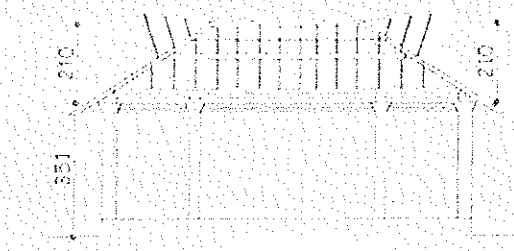
5. Explain how the following principles relevant in modern housing were addressed in *vastuvidya:*

i) Type-design ii) Incremental addition iii) Sustainability

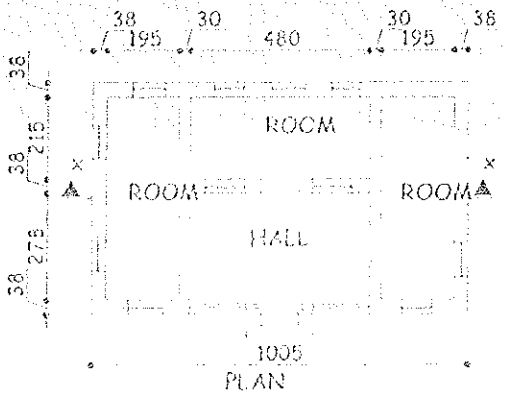
(3+3+4 = 10 marks)

6A. Explain how the concept of *vastupurushamandala* served as a tool for design communication.

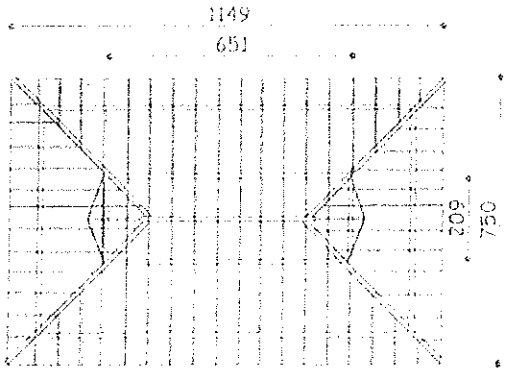
6B. Check the building plan given below for its possible orientation as per *yoni* system of orientation. (Take 1*pada* = 24 cm). If you make any other assumptions state them clearly.



SECTION XX



PLAN



REFLECTED ROOF PLAN

(5+5 = 10 marks)