

**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 DRY climate. 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 with 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)

(5 X 2M = 10 Marks).

Q. No. IV: - Fill in the blanks (any FIVE)

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 \_\_\_\_\_.

===== END =====

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,  
LONERE – RAIGAD -402 103  
End Semester Examination – Dec - 2018**

**Branch:** M.Arch (General)

**Sem.:-** I

**Subject and Subject Code:** - C.A.T & T (MAR10100002)

**Date:** 06 -12 - 2018

**Marks:** 60

**Time:** - 3 Hr.

**Instructions:** - 1. *The First question is compulsory*  
2. *Answer any THREE out of the remaining.*

**Q.1:- Fill in the blanks (any Five)**

**15 Marks**

1. The most elegant bridges have been designed by structural engineer architect \_\_\_\_\_.
2. The only lady architect \_\_\_\_\_ of deconstructivist era.
3. The Brutalist style is mostly known as \_\_\_\_\_.
4. The gigantic alien like building style is \_\_\_\_\_.
5. The style Deconstructivism is characterized by an absence of \_\_\_\_\_, \_\_\_\_\_ or \_\_\_\_\_.
6. \_\_\_\_\_ is also known as Structural Expressionism, is a type of Late Modern architectural style that emerged in the 1970s.
7. The term "Less in More" was coined by \_\_\_\_\_.

**Q. 2:-** Explain the Architectural style, features and about pioneer architect of the building "Heydar Aliyev Center, Baku, Azerbaijan".

**15 Marks**

**Q.3:-** Compare with the advantages and disadvantages according to climate, the building materials used in the Modern, Postmodern and deconstructivist style to the materials in Art Nouveau and Art & Crafts Movement in your own view.

**15 Marks**

**Q. 4:-** What is the style Blobitecture, how it is evolved and the concept behind the construction of "Hussain Doshi Gufa".

**15 Marks**

**Q. 5:-** How do energy efficient building differ from the conventional building. And how to governing codes Play a role towards making building more energy efficient.

**15 Marks**

**Q. 6:-** Briefly discuss Frank Lloyd Wright's view on organic architecture with example.

**15 Marks**



**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE –**  
**RAIGAD -402 103**  
**Semester Examination – December - 2018**

**Branch:** Master of Architecture (EA)

**Sem - I**

**Subject with Subject Code:- Sustainable Development & Planning (MAREA101000004)**

**Date:** 08/12/2018

**Marks: 60**

**Time: 3 Hours**

**Instructions to the Students**

1. Each question carries 12 marks.
2. Attempt **any five** questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly.

M. Arch (EA) 81.  
Sustainable Devel  
Planning (MARE F

**(Marks)**

- Q.1. Elaborate on sustainable urban planning principles with their effects on any project. (12)**
- Q.2. What is the role of community participation in social planning? (12)**
- Q.3. What all comprises housing shortage? Elaborate on the housing problems in India. (12)**
- Q.4. What is brownfield redevelopment? Describe the elements of Brownfield development (12)**
- Q.5. What is the process of policy making? (12)**
- Q.6. Elaborate on the aspects of sustainable development. (12)**
- Q.7. What is neighbourhood planning? Support your answer with a relevant example. (12)**

**\*\*\* End \*\*\***



**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE –  
RAIGAD -402 103**

**End Semester Examination – December - 2018**

**Branch: M.Arch.**

**Sem.:- I**

**Subject with Subject Code: Advanced Studies & Research Methodologies  
MAR10100006**

**Date:- 8/12/2018**

**Marks: 60**

**Time:- 3 Hrs.**

**Instructions to the Students**

1. Each question carries 12 marks.
2. Question 1 is compulsory.
3. Attempt **any four** questions from the remaining.
4. Illustrate your answers with neat sketches, diagram, Flowchart, etc., wherever necessary.
5. If some part or parameter is noticed to be missing, **you may appropriately** assume it and should mention it clearly

**(Marks)**

**(3x4=12)**

**Q.1. Explain the following:**

- a. Architectural Research
- b. Hypothesis
- c. Tool use in Research

**Q.2. How is a research problem identified? Explain with an example.**

**(12)**

**Q.3. Write a research proposal on (In about 500-600 words)**

**(12)**

**“Pedestrianization of streets in your city”**

**OR**

**“Open spaces in your city”**

**Q.4. Discuss the significance of Research in Architectural Design.**

**(12)**

**Q.5. What is Experimental Design Research. Discuss its suitability.**

**(12)**

**Q.6. What is critical literature review? Support your answer with an example.**

**(12)**

**Q.7. a. State the types of Research methods.**

**(2x6=12)**

**b. Research methods to be used for analyzing the smart city data.**





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

**Course:** M. Arch (Environmental Architecture)

**Semester:- 1**

**Subject Name with Subject Code:** Green Building Materials and Technology (MAREA10100003)

**Date:** - 07/12/2018

**Marks:** 60

**Duration:** 3 Hr.

**Instructions:** - 1. The First question is compulsory  
2. Answer any FOUR out of the remaining.

**Q. No.1:- SAQ**

**20 Marks**

**A. Write in pairs, Conventional vs. Green, building materials for the following building components: (5 marks)**

- i. Facades
- ii. Window glazing
- iii. Roofs
- iv. Foundations
- v. Interior partition

**B. Define the following terms: (any 5)**

**(10 marks)**

- i. LCA
- ii. EIA
- iii. Embodied energy
- iv. Green building
- v. BIM software
- vi. Reduce-reuse-recycle policy
- vii. VOC

**C. Match the following:**

**(5 marks)**

- |                         |                                                |
|-------------------------|------------------------------------------------|
| i. Embodied Energy      | cradle to grave                                |
| ii. Life Cycle analysis | energy output/energy input%                    |
| iii. Green building     | cool roofs                                     |
| iv. Energy efficiency   | eco-friendly, energy efficient and sustainable |
| v. Green technique      | MJ/Kg                                          |

**Q. No. 2:- Write short notes on any 2:**

**10 Marks**

- A. Goals and scope in LCA process
- B. Ferrocement
- C. Eco boards
- D. Environmental Impact assessment

**Q. No.3:- Write in detail about Embodied energy and Life cycle analysis in the Green building industry.**

**10 Marks**

**Q. No. 4:- While doing an interior designing project, your client has given you the freedom and directive of strictly using green materials. Describe all the components in the interiors designing project you would consider and which green material you would use thereof?**

**10 Marks**

Q. No. 5:- What are the processes involved in Environmental Impact Assessment. Write in detail about them. **10 Marks**

Q. No. 6:- Write in detail about curtain walls and prefabrication as green options to conventional walling systems. Also write about materials used in these techniques. **10 Marks**

Q. No. 7:- How are green building materials and green building technology connected to each other. Explain with examples with respect to any two building components. **10 Marks**

\*\*\* End \*\*\*

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE –**  
**Semester Examination – December - 2018**

**Course: M. Arch**

**Sem.: I**

**Subject with Subject Code: - Urban Design MAR10100003**

**Marks: 60**

**Date: -07/12/2018**

**Time: -3 Hr.**

**Instructions to the Students**

1. Each question carries 12 marks.
2. Attempt **any five** questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriate assume it and should mention it clearly

F.Y. M. Arch 7/12  
Urban design  
MAR10100003

**Q.1. Describe the following (any six) and support with neat sketches wherever necessary. (12)**

- 1) Legibility
- 2) Density
- 3) Streetscape
- 4) Path
- 5) Urban Form
- 6) Barrier
- 7) Socio- Cultural aspect

**Q.2. Describe five essential components of a Public Place. Support with the help of a relevant example and sketches. (12)**

**Q.3. Expand with a suitable example: - 'Climate and Ecology as a determinant of Urban Form'. (12)**

**Q.4. Explain the following types with description of suitable examples of each:**

- 1) Satellite City
- 2) Grid City
- 3) Linear City

**(12)**

