

Total No. of Printed Pages:1

**SUBJECT CODE NO: E-710**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**T.D.S.VI**  
**(Revised)**

[Time: 3 Hours ]

[Max.Marks:100]

Please check whether you have got the right question paper.

- N.B
- i) Attempt any four questions
  - ii) Use of Is- code 456 is allowed
- Q.1
- a) Differentiate working stress & limit state methods for design of R.C.C formed structure 10
  - b) A slab is to be design for a hall with dimension ratio  $\frac{f_y}{l_x} > 2$ . Propose a design for the hall 15
- Q.2
- a) Explain types of prestressing system 07
  - b) State the necessity of prestressing along with the limitations of prestressing 10
  - c) Write the comparative study : pretension Vs post tensioned members 08
- Q.3
- a) Write the Detail classification of shells along with one example 10
  - b) Explain in brief non- developable shell 07
  - c) Advantages of shell Roofs 08
- Q.4
- a) Define prefabrication & explain need for prefabrication 07
  - b) State the advantages & disadvantages of prefabrication 10
  - c) Explain the characteristics of materials used in prefabrication process 08
- Q.5 Write short notes on ( any five ) 25
- a) Losses of prestressing
  - b) Post tensioning
  - c) Cable structures
  - d) Cable stayed bridges
  - e) Tendons

Total No. of Printed Pages:1

**SUBJECT CODE NO:- E-715**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**P.P.I**  
**(Revised)**

[Time: Three Hours]

[Max.Marks:100]

- N.B
- Please check whether you have got the right question paper.
- Q. No.1 From Section A and Q. No.5 from Section –B are compulsory. Out of the remaining Three questions from each section, solve any Two.
  - Assume suitable data wherever necessary.
  - Figures to the right indicate full marks.

**Section A**

- Q.1 a) What is Tender? Explain the roll of Architect in Tender? 10
- b) Draft a Tender Notice to be published in Newspaper for construction of school building of a trust. Trust office is located at Aurangabad city and school plot is at Waluj. The estimated cost of construction is R.2,20,00,000/- (Rs.2.2 crore). The period of completion is 18 calendar months. 15
- Q.2 What are contractors duties and liabilities in contract. 12 ½
- Q.3 Explain two – Envelop system of Tender. 12 ½
- Q.4 Write short Notes 12 ½
- Security Deposit
  - Earnest Money
  - Lum-sum Tender

**SECTION – B**

- Q.5 a) How Architect can start his own practice. 15
- b) Write the salient features of Architects Act – 1972. 15
- Q.6 Write Note on “Architects profession is a noble profession and not a trade or business”. 10
- Q.7 What are the council of Architecture guidelines for Architectural competition? 10
- Q.8 Write Notes on (Any two) 10
- Taxes applicable to Architects
  - Retention Money
  - Insurance
  - Defect Liability period.

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Total No. of Printed Pages:1

**SUBJECT CODE NO:- E-719**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**B.B.C.P**  
**(Revised)**

**[Time: Three Hours]**

**[Max.Marks:100]**

Please check whether you have got the right question paper.

- N.B i) Solve any Five Questions from the following.  
ii) Assume suitable data wherever necessary.
- Q.1 What is Heritage Zone and State its need? Explain the general building code in regard to this zone. 20
- Q.2 Enumerate: Norms for Lighting and Ventilation. State the general principles of openings for good natural lighting. 20
- Q.3 Write notes on the following (Any Two) 20
- a) FSI.
  - b) TDR.
  - c) Parking for Public- Buildings.
- Q.4 a) Classify the Building Types with reference to Fire Protection. 10  
b) State the General Building – Byelaws in regard to Fire Protection in High Rise Buildings. 10
- Q.5 Write explanatory note on : “CIDCO” 20
- Q.6 Write notes of the following: (Any Two) 20
- a) Compulsory Open Spaces.
  - b) Land Use & Building Classifications.
  - c) Width of Roads according to the Length.

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**SUBJECT CODE NO:- E-740**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**A.B.C.M VIII**  
**(OLD)**

**[Time: Four Hours]**

**[Max.Marks: 100]**

Please check whether you have got the right question paper.

- N.B
- i) Solve any two questions from section A and Solve any two questions from section B.
  - ii) Section A should be solved on drawing sheet only and section B can be solved on answer book.
  - iii) Assume suitable data wherever necessary and draw suitable sketches whenever required.
  - iv) Figure to the right indicate full marks.

**Section A**

- Q.1 A factory shed admeasuring 10m × 55m size is to be provided with North light roofing. Height upto 35 tie level is 6.0 m spacing of steel girder 10 m c/c & trusses at 3.33m c/c draw the following. 35
- a) Key plan and key section.
  - b) Detailed plan and detailed two section
  - c) Draw fixing details for gusset plate and fixing details for glass
  - d) Fixing details at Gutter and Ridge
- Q.2 A commercial building having G +2 Story structure is to be provided with curtain wall glazing on north side with following data. 35
- a) Height of Floor 3.3m
  - b) Length of building 15m
  - c) Curtain wall to be provided to upper floors only draw the following
    - i) Plan, elevation & section.
    - ii) Fixing of framework to R.C.C
    - iii) Fixing of ACP & glass to framework.

- Q.3 Draw the neatly drafted scaled sketches for various types of shoring. 35

**Section B**

- Q.4 What are the causes of earth quakes? What are the remedial measures for building design and construction 15
- Q.5 Explain cavity wall. Draw the sketches for footing, door, window opening and at slab level. State the advantages and disadvantages. 15
- Q.6 Explain various type of shell roof. 15

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**SUBJECT CODE NO: E-741**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**T.D.S VIII**  
**(OLD)**

[Time: Three Hours]

[Max.Marks: 75]

- N.B Please check whether you have got the right question paper.
- i) Solve any two questions from question no. 1 to 3 and any two from question no. 4 to 6.
  - ii) Figures to right indicate the maximum marks.
  - iii) Assume suitable data if necessary and mention it clearly.
  - iv) Use IS 456 and Non-programmable Calculator is allowed.

## SECTION A

- Q.1 Answer the following questions (Any Two) 20
- a) Explain limit state design method.
  - b) Differentiate concrete structures and steel structures.
  - c) Draw the reinforcement details in one way slab & two way slab.
- Q.2(a) Design R.C. slab for room 5m × 4m measuring from inside. The superimposed Load, exclusive of the self weight of the slab is 4kN/m<sup>2</sup>. The slab may be assumed to be simply supported at all the four edges with corners free to lift. Use M20 and Fe415 steel. Assume thickness of wall is 230mm. 17
- Q.3(a) A reinforced concrete beam of M20 grade of concrete, 300mm wide and 600mm Deep is required to resist a superimposed moment of 150 kN-m at an intermediate Support of a continues beam. Using mild steel bars calculate Ast at top if 4 Nos. 16mm diagram are required to be continued at bottom from one span to other. Assume effective cover to compression steel as 35mm and that to tension steel as 50 mm. 17

## SECTION- B

- Q.4 Design a dog-legged stair for residential building to which Vertical distance between Floors is 3.5m. The stair case hall measure internally 3m × 4.5 m. Live load 5kN/m<sup>2</sup>. Use concrete M20, steel Fe 415. Draw sketches showing reinforcement details. 18
- Q.5(a) Write step by step procedure of design of isolated slope rectangular footing? 10
- (b) Explain characteristic load & characteristic strength? 05
  - (c) Given details of reinforcement in columns? 05
- Q.6 Design the reinforcements in a column of size 400mm × 600mm subjected to an Axial load 2000kN. The column has unsupported length of 3m and is braced Against side way in both directions. Use M20 & Fe415. 17

Total No. of Printed Pages:1

**SUBJECT CODE NO: E-742**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**L.D-II**  
**(OLD)**

**[Time: 3:00 Hours]**

**[Max. Marks: 75]**

- N.B
- Please check whether you have got the right question paper.
- i) Q .No 1 is compulsory.
  - ii) Solve any THREE questions out of the remaining questions.
  - iii) Draw neat sketches wherever necessary.

- Q.1 Write short note on any FIVE. 30
- a) Site – structure relationship.
  - b) Functional questions of plants.
  - c) Ecological aspects of Landscape Design.
  - d) Environmental impact Assessment.
  - e) Rock Garden.
  - f) Water Garden.
  - g) Bird sanctuaries.
- Q.2 Write an essay on “new concepts in Landscape planning”. Give Suitable example. 15
- Q.3 Describe characteristic features of “Amusement parks”. Give suitable example – minimum TWO. 15
- Q.4 Explain “Hard & Soft” Landscape elements. Also describe importance of both in public gardens. 15
- Q.5 Elaborate on different stages of works involved in planning and execution of Lager Landscape projects. 15
- Q.6 Write a detailed note on “Integration of Building and Landscape“. Give suitable example. 15

Total No. of Printed Pages:1

**SUBJECT CODE NO: E-744**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch (OLD) Examination Nov/Dec 2017**  
**URP-II**  
**(OLD)**

**[Time: Three Hours]**

**[Max. Marks: 75]**

Please check whether you have got the right question paper.

- N.B
- 1) solve any five question
  - 2) Draw sketches wherever necessary
- Q.1 Write short notes on any three 15
- a) Central place theory
  - b) Volume of traffic
  - c) Importance of public participation in planning
  - d) Zoning regulations
- Q.2 Explain the concept of neighborhood planning with examples. 15
- Q.3 Write in detail about importance of transportation planning Also define “Right of way” along with neat sketch. 15
- Q.4 Explain in detail concept of a Region, types of Regions with suitable examples 15
- Q.5 Explain process of preparation of development plan and also write contents of D.P in brief 15
- Q.6 Differentiate between planning “Norms” & “standards” also discuss importance of norm and standards for a fast growing city. 15

Total No. of Printed Pages:1

**SUBJECT CODE NO: E – 745**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**ABCM-VII**  
**(OLD)**

**[Time: Four Hours]**

**[Max.Marks:100]**

Please check whether you have got the right question paper.

- N.B
- 1) Solve any two questions from section A and any three questions from section B.
  - 2) Use drawing sheet for section A and answer sheet for section B.
  - 3) Assume suitable data wherever necessary.
  - 4) Use sketches wherever. To be solved on answer sheet.

**Section A**

- Q.1 A bank to construct a safe deposit vault. The size of the vault of the vault is 12m× 15m with 3.3m floor to ceiling height and located in basement. 35
- a) Draw plan, elevation and section at suitable scale.
  - b) Enlarged details of oil important constructional details.
- Q.2 A banquet hall admeasuring 18m×14m. is to be designed with coffered slab. The height of the hall is 3.65m up to beam bottom. 35
- Use suitable scale.
- i) Draw plan and section.
  - ii) Enlarged detail showing all the reinforcement and construction details.
- Q.3 A factory shade of 25m × 40m is to be designed with R. C. C. portal frame roofing system with G. I. sheet roof covering. 35
- a) Draw plan, elevation and section at suitable scale.
  - b) Enlarged all important constructional details.
  - c) Fixing details of roofing sheet.

**Section B**

- Q.4 Describe Ferro – cement concrete and its application in building construction industry. 10
- Q.5 Explain with sketches single curvature and double curvature shell structure. 10
- Q.6 Elaborate on the architectural application of pre – stressed concrete. Draw sketches of construction details. 10
- Q.7 Explain with sketches the folded plate construction with advantages and disadvantages of the same. 10

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**SUBJECT CODE NO: E-746**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**TDS-VII**  
**(OLD)**

[Time: Three Hours]

[Max.Marks: 75]

- N.B Please check whether you have got the right question paper.
- 1) Solve any two question from question no. 2 to 4 and any two from question no.5 to 7
  - 2) Question No. 1 is compulsory
  - 3) Assume suitable data if necessary and mention it clearly
  - 4) Use IS 800, steel Table and Non- programmable Calculator is allowed
  - 5) Figures to right indicate the maximum marks

**Section A**

- Q.1 Answer the following question ( any three) 15
- a) Advantages of steel structures
  - b) Differentiate tension member and compression member
  - c) Classification of cross sections of steel structures
  - d) Assumptions made in the theory of riveted connections
- Q.2 a) Explain laced column & battened columns? 08
- b) How will you find economical spacing of components of built- up columns? Explain in brief? 07
- Q.3 a) Explain the design procedure of design of axially loaded tension member? 08
- b) What is difference in between rivet connected tension member and weld connected tension member 07
- Q.4 a) Explain the terms with neat sketch: i) Pitch ii) edge distance iii) end distance 08
- iv) Gauge distance?
- b) Explain different types of welding process? 07

**Section B**

- Q.5 Design a tension member in a roof truss to carry a force of 1000kN. The diameter of connecting rivet is 20mm. design the connection also with  $F_y = 250\text{N/mm}^2$  15
- Q.6 a) Draw a neat sketch of Pratt truss & compound fink truss with showing its components? 08
- b) State the different type of loads acting on roof truss? 07
- Q.7 Design a built up column carrying an axial load of 1000kN. Its length is 10m and it is effectively held in position at both ends and restrained against rotation at one end. Assume yield stress of steel of 250mPa? 15

**SUBJECT CODE NO: E-750**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**ESS-VI**  
**(OLD)**

[Time: Three Hours]

[Max.Marks:75]

- N.B
- Please check whether you have got the right question paper.
- i) Q.No.1 from section A and Q.No.5 from section B are compulsory.
  - ii) Solve any two questions each from section A and section B from the remaining.
  - iii) Assume suitable data wherever required.
  - iv) Figure to the right indicates full marks.

**Section - A**

- Q.1 Define Earthing. State its necessity. Explain in detail plate and pipe earthing. 20
- Q.2 Write Shot Notes on (any Two) 10
- a. MCB and RCCB
  - b. Ohms Law
  - c. CFL
- Q.3 Explain with neat sketches: Elevator or Lift. 10
- Q.4 Explain the factors to be considered for selecting a particular wiring type. 10

**Section – B**

- Q.5 Describe salient features of NBC for fire zoning, planning and occupancy of building. 15
- Q.6 Write Short Notes on (any Two) 10
- a. Wet Risers
  - b. Fire Hydrants
  - c. Smoke detectors
- Q.7 Explain sprinkler system for fire-fighting. 10
- Q.8 Explain various materials used for fire insulation. 10

Total No. of Printed Pages:01

**SUBJECT CODE NO: E-749**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**URP-I**  
**(OLD)**

[Time: Three Hours]

[Max.Marks:75]

Please check whether you have got the right question paper.

- N.B.
- 1) Solve any FIVE questions.
  - 2) Draw sketches wherever necessary.
- Q.1 Write short notes on any THREE 15
- a) Importance of building byelaws.
  - b) Site and situations
  - c) Transportation planning
  - d) Economical surveys.
- Q.2 Explain the role of different planning agencies at local, state and National level. 15
- Q.3 What do you understand by D.C.Rules? Elaborate on the importance of the same. 15
- Q.4 Define Urban & Rural Settlements. Also differentiate between them. 15
- Q.5 What are planning surveys? Explain the importance of planning surveys for Redevelopment of city core. 15
- Q.6 Write an essay on evolution of planning thought. Also explain the present scenario in India. 15

Total No. of Printed Pages:1

**SUBJECT CODE NO: E-748**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**

**PP-I**  
**(OLD)**

[Time: Three Hours]

[Max.Marks: 75]

- N.B
- Please check whether you have got the right question paper.
- 1) Question no. 1 from section A and question No.5 from section B are compulsory
  - 2) Attempt any two questions from the remaining three questions from each section.
  - 3) Assume suitable data if necessary.
  - 4) Figures on the right indicate full marks.

**Section - A**

- Q.1 Write short notes on any four 20
- a) Clerk of works
  - b) Escalation
  - c) Architects Instructions.
  - d) Liquidated Damages
  - e) Earnest money deposit
  - f) Provisional sum.
- Q.2 What action would you propose as an Architect if the contractor is not following your instructions? 10
- Q.3 How are tender bids evaluated? 10
- Q.4 Explain in detail what is defects liability period? 10

**Section - B**

- Q.5 Explain the procedure for opening of Tenders and the conditions for recommending a contractor for the award of work. 15
- Q.6 Explain what is a BAR- CHART and how it helps to complete the project in time 10
- Q.7 Describe an Architect's office and its management 10
- Q.8 Explain the salient features of Architect's Act of 1972. 10

# Subject Code : 705

FACULTY OF ENGINEERING & TECHNOLOGY  
Fourth Year Architecture Examination  
NOVEMBER/DECEMBER, 2017

## Architectural Building Construction & Materials – VII

Time: Four Hours

Max. Marks: 100

“Please check whether you have got the right the question paper”

- Note:
- Solve Section A on drawing sheet and Section – B on answer sheets.
  - Solve any Two questions from Section A and Any Two questions from Section B.
  - Draw neat sketches wherever required.

### SECTION – A

Q.1 A badminton court in a timber is to be constructed in an existing multipurpose hall having dimensions of 18.0 mt x 32.0 mt.

The court has to be constructed in the center of the hall. The dimensions of the badminton court one 8.5 mt. x 17.4 mt.

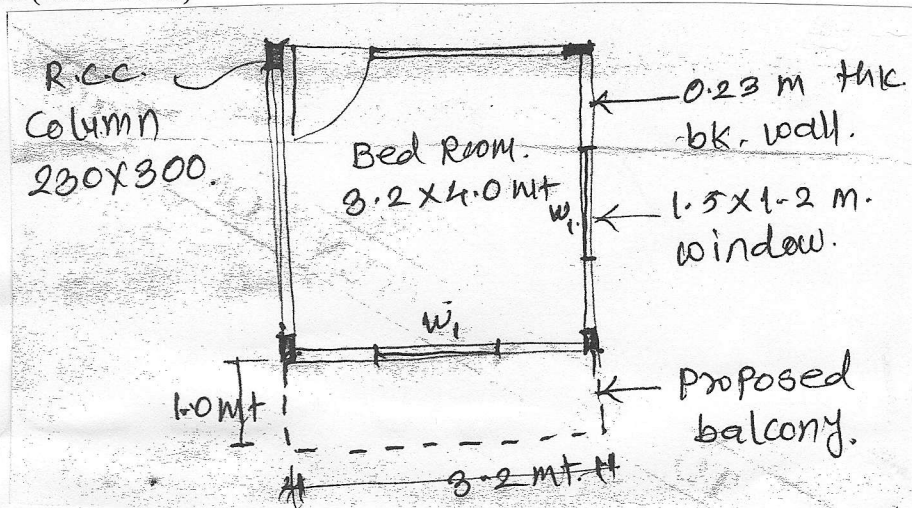
Height of the hall is 9.0 mt below the tie beam of a truss.

You are required to give all the dimensions of the T.W. members and construction procedure adopted.

- Draw key plan and section 03
- Detailing of T.W. flooring 12
- Important joinery details (Min. Two) 10
- Two sections of flooring 10

Q.2 An existing R.C.C. structure with slab thickness 0.115m is to be provided with a balcony to children bedroom admeasuring 3.2 x 4.0 mt. on first floor.

Size of balcony is 1.0 mt. x 5.2 mt. clear height of room is 3.0 mt. (refer sketch)



- Draw key plan and section 03
- Detail plan, all steel members sizes 12
- Sections two no. 10
- All important joinery details. (Min. Two) 10

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# Subject Code : 705

-2-

- Q.3 Draw neat and labeled sketches with construction details of any Four : 35
- (i) Green roofs
  - (ii) Living walls
  - (iii) Details of water wall
  - (iv) Fixing and working of an air extractor for an industrial shed.
  - (v) Fixing detail of glass cladding for a wall of hotel building facade

## SECTION – B

- Q.4 What are recycled building materials? Explain with its advantages? 15
- Q.5 Write short notes on (Any Two) 15
- (i) Earth bag construction
  - (ii) Earth sheltered building
  - (iii) Smart materials.
  - (iv) Fly ash.
- Q.6 What is PEB? Explain in brief its uses and advantages. 15

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Total No. of Printed Pages:1

**SUBJECT CODE NO:- E-747**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**

**L.D-I**  
**(OLD)**

**[Time: Three Hours]**

**[Max.Marks: 75]**

Please check whether you have got the right question paper.

- N.B
1. Q.No.1 is compulsory.
  2. Solve any three questions out of the remaining questions.
  3. Draw sketched wherever necessary.
- 
- Q.1 Write short notes on any five. 30
- a) Chinese Gardens
  - b) Indoor Landscape
  - c) Bio-Aesthetic planning
  - d) Horticulture Landscape
  - e) Principles of Landscape Design
  - f) Ancient Gardens in India
  - g) English Gardens
- 
- Q.2 Write an essay on growing importance of “Landscape Planning & Design” in today’s context. 15
- Q.3 What is “Herbarium”? Explain its importance in Landscape Architecture. 15
- Q.4 Write a note on evolution of profession of Landscape Architecture. Also mention names of minimum 3 famous Landscape Architects in India. 15
- Q.5 Write botanical names and aesthetic/ physical characteristics of any FIVE flowering plants in India suitable for Public Parks. 15

Total No. of Printed Pages:02

**SUBJECT CODE NO:- E-743**  
**FACULTY OF ENGINEERING TECHNOLOGY**  
**Fourth Year Arch Examination Nov/Dec 2017**  
**PP-II**  
**(OLD)**

[Time: Three Hours]

[Max.Marks:75]

Please check whether you have got the right question paper.

N.B

- i) Q.No.1 and Q.No.5 are compulsory.
- ii) Out of remaining three questions from each section, Solve any two.
- iii) Assume suitable data wherever necessary.
- iv) Figures to the right indicate full marks.

Section A

- Q.1 You have been asked to value an existing property in good locality of Aurangabad. The property is situated in an approved layout. The building constructed on the plot is a ground and one upper storey. Structure which is a r.c.c framed structure. The details of the property are as under : 20
- i) Area of Plot 540 s.mts
  - ii) Area of gr. Floor 180m<sup>2</sup>
  - iii) Area of 1<sup>st</sup> Floor 90m<sup>2</sup>
  - iv) Completion year of gr. Floor 1980
  - v) Completion year of 1<sup>st</sup> Floor 1995
  - vi) Replacement cost of 14,500/m<sup>2</sup>
  - vii) Life of building 65 Years.
  - viii) Salvage value 10%
  - ix) Market value of land Rs.30,000/ m<sup>2</sup>
- Q.2 Explain briefly hypothetical rent. 10
- Q.3 What are the destruction in case of leasehold lands? 10
- Q.4 Describe the conduct of arbitration proceedings. 10

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Section B

- Q.5 Write short notes on any three 15
- a) Arbitrator in disputes.
  - b) Rental method of valuation
  - c) Physical life of a building
  - d) Obsolescence
  - e) Servient heritage.
- Q.6 Describe the period of first letting in standard rent. 10
- Q.7 Describe the different modes of acquiring easements. 10
- Q.8 What is apportioned area of land? Give example. 10