

Total No. of Questions : 4]

SEAT No. :

P250

[Total No. of Pages : 2

[5257]-31

T.Y. B.Arch. (Bridge Course)

BUILDING TECHNOLOGY & MATERIALS - III
(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answers to Section - I & Section - II should be written in separate books.*
- 2) *Use drawing sheets for Section - I and answer sheets for Section - II.*
- 3) *Solve any 2 questions from Section I and Question 4 is compulsory.*
- 4) *Neat diagrams must be drawn wherever necessary.*
- 5) *Figures to the right indicate full marks.*
- 6) *Assume suitable data, if necessary.*

SECTION - I

Q1) A office space is to be provided with sandwiched partition in an opening between the general office and conference hall. Opening size is 2400 × 2100mm (height).

Draw a plan to the scale of 1:20. [10]

Draw elevation and section to the scale of 1:20. [10]

Draw enlarged detail of joinery between stud and nogging and fixing of door shutter. [10]

Q2) A residential building having floor height of 3.2 mts. is to be provided with RCC staircase. Draw an appropriate type of staircase with necessary finishes and detailing.

Draw plan at 1:20 scale of staircase showing reinforcement detail. [10]

Draw section at 1:20 scale through staircase flight showing reinforcement detail. [10]

Draw railing detail and tread and riser finishes detail at 1:10 [10]

P.T.O.

Q3) Draw sketches of **any 3** of the following : **[30]**

- a) Draw a section through elevator for a G+5 Residential building showing installation provisions in civil work to a suitable scale.
- b) What is modular ceiling? Draw section showing fixing of modular tiles in framing and fixing of framing to ceiling and wall.
- c) Mass retaining wall showing height limitations.
- d) Single Basement construction with external tanking.
- e) Explain with sketches fixing of steel truss to steel stanchion.

SECTION - II

Q4) Answer **any 5** of the following : **[40]**

- a) Explain the uses of stainless steel in building industry.
- b) Explain the advantages of aluminium doors and windows.
- c) Explain with sketches Reinforced brick masonry.
- d) Explain the process of polishing of new timber.
- e) Explain with sketch the process of setting out of structures.
- f) Explain with sketch RCC pile cap and column.
- g) Explain the process of guniting and its application for plumb correction of column.
- h) Explain with sketches natural stone cladding to building



Total No. of Questions : 4]

SEAT No. :

P251

[Total No. of Pages : 3

[5257]-33

T.Y. B.Arch. (Bridge Course)
BUILDING SERVICES - Ia
(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Answers to the Section - I and Section - II should be written in separate answer books.*
- 3) *Neat and labeled diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Assume suitable data, if necessary.*

SECTION - I

Q1) Attempt the following (ANY TWO) :

[2 × 15 = 30]

- a) A multipurpose hall with length = 18m, width = 12m, height = 4m, is required to be mechanically ventilated. Based either on a supply system or an exhaust system, calculate the number of exhaust fans required. Show the position of fans in a neatly drawn plan and section.

Assume the appropriate air cycles required. You may choose fans from the following :

Diameter of Fan	Air handling capacity of fan in cu.m/hr
305mm	1900
380 mm	4000
457 mm	6800
610mm	7900

- b) Describe in detail with sketches Mechanical Ventilation system in an enclosed space?
- c) Explain with neat sketches the working of a split type air-conditioner.

P.T.O.

Q2) Write short notes on the following (ANY FOUR) : **[4 × 5 = 20]**

- a) Refrigeration cycle.
- b) Window type AC.
- c) Cooling Tower.
- d) Types of Condensers.
- e) Air Handling Units.
- f) AC Ducting System.

SECTION - II

Q3) What is Reverberation Time? State Sabine's formula and the optimum reverberation time for a lecture hall. **[20]**

Calculate the reverberation time for a lecture hall with length = 11 m, width = 6m, height = 3.5m.

Seating capacity of the hall = 40.

Item	Description	Nos.	Size
Flooring	Marble mosaic tiles	-	-
Walls	230 thick brick walls with neeru finished plaster	-	-
Ceiling	Concrete slab with neeru finished plaster	-	-
Doors	T.W. fully paneled doors	2	1 M × 2.1 M
Windows	Fully glazed windows	5	1.8 M × 1.2 M

Assume full occupancy, all windows open and all doors closed.

OR

Explain with neat sketches various types of fire hydrants used in Fire fighting system.

Q4) Write short notes on following (Any FIVE) :

[5 × 6 = 30]

- a) Dry and wet risers.
- b) Smoke Detectors.
- c) Fire hydrants.
- d) Sprinkler System for fire safety.
- e) Acoustic Material.
- f) Fire extinguishers.
- g) Defects of Sound
- h) Flutter echo.



Total No. of Questions : 5]

SEAT No. :

P252

[Total No. of Pages : 4

[5257]-34

T.Y. B.Arch. (Bridge Course)

QUANTITY SURVEYING & ESTIMATING
(2008 Pattern) (Theory)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Answers to the two sections should be written in separate book.*
- 3) *Neat sketches must be drawn whenever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Assume suitable data, if necessary.*
- 6) *Use of logarithmic table, slide rules, Mollier chart, electronic pocket calculator & steel label is allowed.*

SECTION - I

Q1) a) Work out quantities for the following items of work (any five) for the structure shown in the accompanying diagram based on the details and data given. **[40]**

- i) R.C.C. (1: ½: 3) col. Footing.
- ii) Excavation of soil in Hard Murum for the column footing.
- iii) R.C.C. (1½ : 3) lintels
- iv) Vitrified tile flooring
- v) Nirooplaster (1:4) to Wall & ceiling (kitchen only).
- vi) Ceramic tile dado in toilet (Ht = 2.10m).
- vii) C.C. T.W. door frame (out of 125 × 65 mm)
- viii) M.S. Window and Ventilators.
- ix) B. B. Masonry (1:6) 230 thick in Ground floor only.

P.T.O.

- b) State the unit of measurement as per I.S. 1200 for the following items of work. [10]
- i) M 20 R.C.C Footing.
 - ii) 30mm Commercial. flush door shutters.
 - iii) External sand faced plaster.
 - iv) 100mm High Marble skirting.
 - v) Inspection chamber.
 - vi) Rubble soiling.
 - vii) Corrugated G.I. Roofing.
 - viii) 110 brick masonry.
 - ix) European W.C.
 - x) S.S. Sink.

SECTION - II

Q2) Write short notes on (any two) of the following : [10]

- a) Schedule of Quantities.
- b) Work order.
- c) Unit Rate.
- d) Characteristics of Approximate Estimate.

Q3) Describe the items of work, as described in Bill Of Quantities for the following items of work (any two): [10]

- a) B.B. Masonry (1:4) 230 mm thick.
- b) P/F 20mm dia. Concealed.G.I. Pipe.
- c) Excavation in soil in Hard Murum (0-1.5M).
- d) P/F M. S Reinforcement.

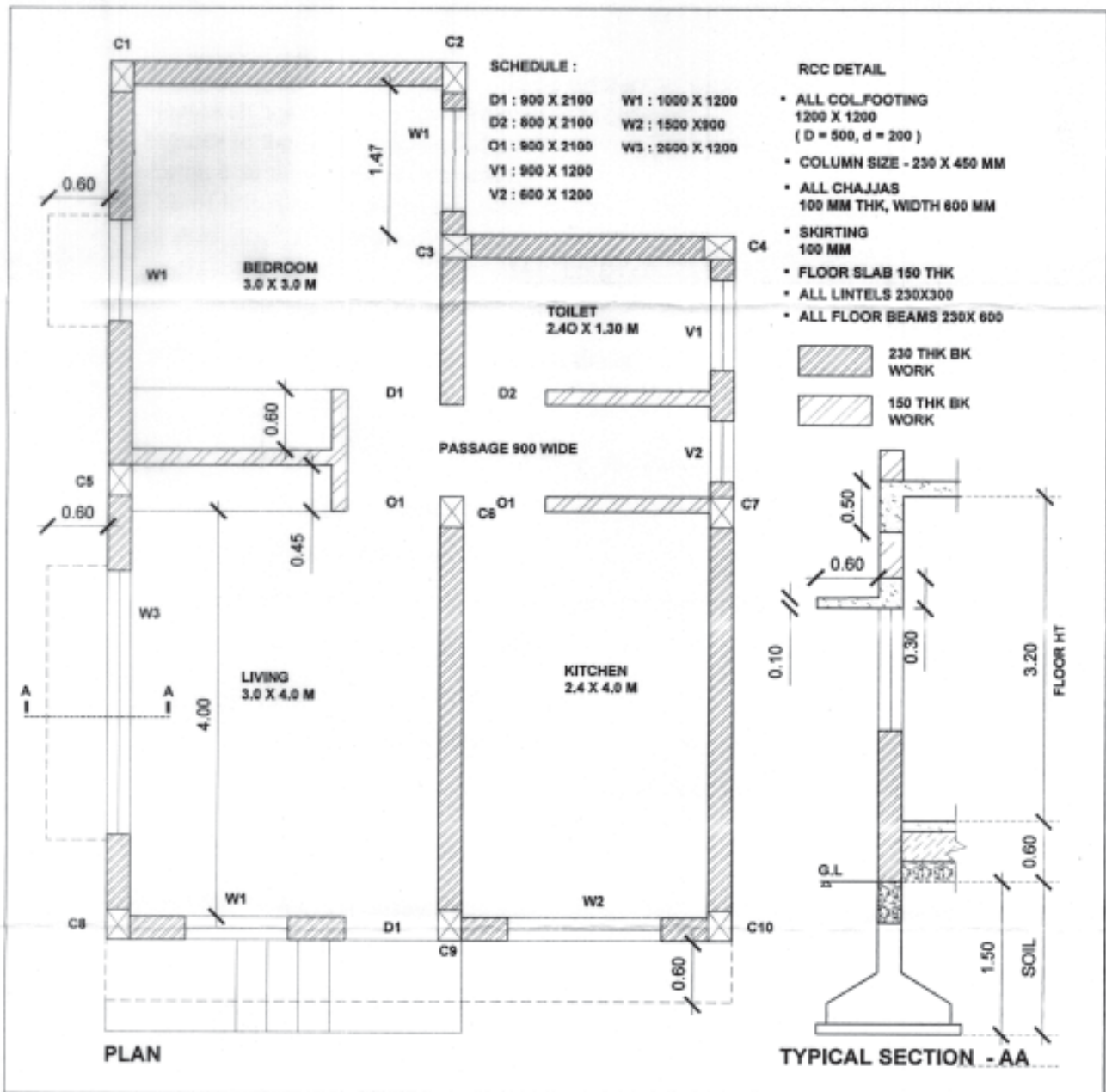
Q4) Analyse rate for the following items based on the material and labour cost as indicated below (any two) : **[15]**

- a) R.C.C. plinth beam (1:2:4).
- b) 110 mm brick masonry.
- c) Sand faced plaster.
- d) P.C.C. in Foundation (1:4:8).

Material Rate	Labour Rate
Cement : Rs. 300/Bag	RCC : Rs. 2,800/cum
Sand : Rs. 1,600/cum	Brick. Masonry : Rs. 4,200/cum
Aggregate : Rs. 1,800/cum	Plaster : Rs. 1,200/sq.m
Bricks : Rs. 9/brick	P.C.C. : Rs. 2,000 /cum

Q5) Prepare indent of Material for (any three) : **[15]**

- R.C.C. 1.2.4 for quantity of 250 Cum.
- U.C.R. Masonry in CM 1:5 for quantity of 550 Cum.
- Internal Niroo finish plaster in CM 1:6 of 690 Sqm.
- Brick Masonry 230mm thick in CM 1:4 of 830 Cum.



Total No. of Questions : 7]

SEAT No. :

P2574

[Total No. of Pages : 3

[5257] - 35

Fourth Year B. Arch.

SPECIFICATION WRITING

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) All questions are compulsory.*
- 2) Answers to the two sections should be written in separate books.*
- 3) Figures to the right indicate full marks.*

SECTION - I

Q1) Discuss the relationship between working drawings & specification writing.[10]

OR

Define specification writing. Explain any three types of specifications.
Discuss manufacturers specifications.

Q2) Write Material Specification on (Any four).

[20]

- a) Brick
- b) Water
- c) Glass
- d) Stone
- e) Sand

P.T.O.

Q3) Write Brief Specification on. (Any four) [20]

- a) Excavation in soft rock
- b) Oil Painting
- c) Internal Brick wall
- d) TW door
- e) Rough cast External cement plaster

SECTION - II

Q4) Write short notes on. (Any three) [15]

- a) Types of Lifts
- b) Types of Electrical Wiring
- c) Sprinkler System
- d) Types of Water proofing
- e) Renewable energy resources

Q5) Write detailed Specification for following. (Any three) [15]

- a) Door for toilet for a disabled person.
- b) Explain tremix Flooring for Industrial Shed
- c) Explain any three acoustical defects
- d) Sound reflecting materials

Q6) Explain functions of. (Any Two) [10]

- a) Water Seal in traps
- b) Filters in air conditioners
- c) Fuse
- d) Disconnecting Chamber

Q7) Write manufacturers name for following products. (Any ten)

[10]

1. Plywood	2. Aluminum Door & windows	3. Wash Basin	4. Water supply pipes
5. White Cement	6. Vitrified Tiles	7. Kitchen Sinks	8. Solar Panels
9. Air Conditioner	10. Water Storage tanks	11. Roofing tiles	12. MS windows
13. Asbestos cement sheets	14. Orissa pan	15. Lift	16. External Paint



Total No. of Questions : 10]

SEAT No. :

P253

[Total No. of Pages : 2

[5257]-41

**Fourth Year B.Arch.
TOWN PLANNING
(2008 Bridge Course)**

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Que: 1 and Que: 6 are compulsory.*
- 2) *Answer ANYTHREE questions from EACH SECTION from the remaining.*
- 3) *Answers to the TWO SECTIONS should be written in separate books.*
- 4) *Draw neat diagrams or sketches wherever necessary.*
- 5) *Assume suitable data if required.*

SECTION - I

- Q1)** What is the Role of Architect in Town planning. **[14]**
- Q2)** Explain with sketches any 3 types of towns given in Manasara Shilpa Shastra. **[12]**
- Q3)** Write notes on (Any 3) : **[12]**
- a) Mohenjo-Daro.
 - b) Traffic Survey.
 - c) Satellite Growth.
 - d) Le Corbusier.
- Q4)** Describe six stages of Town Development suggested by Lewis Mumford. **[12]**
- Q5)** Explain the planning features of Chandigarh. **[12]**

P.T.O.

SECTION - II

- Q6)** Explain the terms Row Houses, Twin Bungalows, Semi detached and Detached Houses with sketches. **[14]**
- Q7)** Write short notes on (Any 3) : **[12]**
- a) Aspects of Zoning.
 - b) Any Two Types of Road Junctions.
 - c) FSI and TDR.
 - d) Cul-De-Sac.
- Q8)** Write a note on M.R. & T. P. Act 1966. **[12]**
- Q9)** What is Town planning scheme? Explain with example. **[12]**
- Q10)** What is the role of Urban designer in Town planning Process? **[12]**



Total No. of Questions : 10]

SEAT No. :

P254

[Total No. of Pages : 3

[5257]-42

Fourth Year B.Arch. (Bridge Course)

PROFESSIONAL PRACTICE

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Answers to the two Sections - I & II - must be written on SEPARATE Answer Books.
- 2) Answers to Q.1 from Section-I, and Q.6 from Section - II are COMPULSORY.
- 3) Attempt ANY TWO out of the remaining Questions in EACH section.
- 4) Figures to the right of each Question indicate Full Marks.

SECTION - I

Q1) Describe a typical Organisation Structure and Layout of an Architects OFFICE. What are the services commonly provided by a professional Architect? [20]

Answer ANY TWO of the following :

Q2) What is professional Relationship, Role and Responsibility of (a) the Architect, (b) the Owner and (c) the Contractor in any building construction project?[15]

Q3) Write a comprehensive note on The Indian Institute of Architects, highlighting its History in brief, and its Role and Activities as an Institution of Architects. [15]

Q4) Define ANY THREE of the following (5 Marks Each) : [15]

- a) Contract Agreement.
- b) Easement Rights.
- c) Market Value.
- d) Power of Attorney.
- e) Arbitration.
- f) Construction Contract.

P.T.O.

Q5) Write short Notes on ANY THREE of the following : (5 Marks Each) **[15]**

- a) Code of Conduct for a professional Architect.
- b) Architects Agreements with associated Consultants.
- c) Composition of the Council of Architecture.
- d) Architectural supervision of construction work.
- e) Professional Fees for Architectural services.
- f) Composition and Layout of an Architects Office.

SECTION - II

Q6) Write a comprehensive note explaining the TENDERING PROCESS by PRE-QUALIFICATION system, and discuss its advantages and dis-advantages. **[20]**

Answer ANY TWO of the following :

Q7) Write a comprehensive note on SCALE OF PROFESSIONAL CHARGES and Stages of Payment of Fees for an Architectural project assignment. **[15]**

Q8) What is THE ROLE OF AN ARCHITECT on a building construction site ? Discuss the Architects status, and his duty with respect to Speed, Quality and Economy. **[15]**

Q9) Compare and Contrast ANY THREE of the following (5 marks each): **[15]**

- a) Mobilization Advance and Material Advance.
- b) Earnest Money Deposit and Security Deposit.
- c) Cost, Price and Value.
- d) Freehold and Leasehold Land Tenure.
- e) Proprietary and Partnership Practice.
- f) Bonus Clause and Penalty Clause in Tenders.

Q10) Write short Notes on ANY THREE of the following (5 marks each) : **[15]**

- a) Extension of Time limit.
- b) Extra Items of Work.
- c) Distress Value of a Property.
- d) Scrutiny of Tenders.
- e) Pre-Bid Conference.
- f) Site Visit Reports.



SEAT No. :

P255

[Total No. of Pages : 3

[5257]-43

F.Y. B.Arch. (Bridge Course)

ARCHITECTURAL DESIGN - IV

(2008 Pattern)

Time : 18 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Your answers will be valued as a whole.*
- 2) *Assume suitable data if necessary.*
- 3) *The candidate shall submit single line plans of the entire scheme with the layout plan to the required scale at the end of the first day. These drawings shall not be returned to the candidates, Therefore due record of the same should be kept for subsequent days. The candidate shall not make any considerable departure from the design submitted on the first day.*
- 4) *The drawings should be self-explanatory with structural scheme, should have clarity in all plans and sections. Skill of drafting should have language of architecture.*

COMMERCIAL COMPLEX AT PUNE

Preamble :

The cities today are a conglomeration of people from all strata. Their economic base, cultural backgrounds, social structures, all differ. With the youth becoming more and more extrovert and outgoing, the urban places are in constant need of catering to this user group. The busy lifestyle also induces a need to relax over the weekend. Such places are more often within cities where basic shopping activities and dining out is taken care of.

The intent of this design is to visualize a place that would cater to all age groups and all user groups in the city. It should also be iconic of the current trends in Architectural design. The design should not comply with the built requirements but it should also create an interactive, vibrant and a public place.

P.T.O.

The Program requirements are as follows :

Activities	No.	Total Area in sq.m	(Carpet Area) sq.m
<u>Shops</u>			
Retails Shops	20	30	600
Brand Stores	5	500	2500
Eateries outlets	10	20	200
Kitchen for each Eatery	10	10	100
Common food Plaza Seating	1	500	500
Entrance Foyer	1		200
Toilets			As required
<u>Offices</u>			
Small offices	10	50	500
Large offices	4	200	800
<u>Administration</u>			
Manager's Cabin	2	20	40
Records office	1	20	20
Store	1	30	30
Toilets			As required
<u>Services</u>			
Loading and unloading platforms			Adequate
Generator room			50
Transformer			40
Electrical Panel Room			30
MSEB Meter room			30
U.G. Tank Adequate			Adequate
Water Treatment Plant Adequate			
Fire Fighting Arrangements			
<u>Parking</u>			
Cars	50		
2-wheelers	100		

The Site:

The site is in Pune, bounded by road on two sides. The site measures 60 M × 40M is abutted by 30mts wide road on east and 18 mts wide road on south and having open space on west and residential development on north side. The site is having a slight gradient of 1:100 towards south.

Design parameters:

1. Margins from the road 6 M.
2. Other Margins from the site boundary 3 M.
3. Maximum ground Coverage is 50% of the ground area.
4. The design should be functional and structurally stable.
5. Provision of barrier free architecture for physically challenged people is a MUST.
6. Necessary staircases, lifts, corridors, passages should be provided as per the standards.
7. For vehicular movement, driveways, ramps, head rooms etc should be provided as per standards.
8. Structural drawings explaining the structural systems should be provided through plans and sections.

Day 1 Requirements:

- 1) Sketches showing Concept and concept plan To an appropriate scale
- 2) Single line drawing on the site explaining the building outline and a general configuration of the building. 1:200
- 3) Single line floor plans 1:100

Final Day:

- 1) Single line drawing on the site explaining the building outline and a general configuration of the building 1:200
- 2) Double line Plan of the building at all levels 1:100.
- 3) Minimum two sections in both directions 1:100.
- 4) All Elevations 1:100.
- 5) Site Development with Parking, Ramps in case of basement, Landscape 1:200.
- 6) Minimum one perspective view.

