[4962] - 301

T.Y. B.Arch.

BUILDING TECHNOLOGY & MATERIALS - III

(2008 Pattern)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :-

1) Answers to Section I should be solved on drawing sheets only & Section II should be written in seperate answer books.

2) Solve any 2 questions from section 1 and Question 4 is compulsory.

3) Neat diagrams with dimensions must be drawn wherever necessary.

4) Figures to the right indicate full marks.

5) Assume suitable data, if necessary.

SECTION - I

Q1) An apartment is to be provided with edge hung sliding folding door to an opening between the living room and terrace. Opening size is 2400 × 2100mm.a)   Draw a plan to the scale of 1:10.   **[10]**

b)   Draw elevation and section to the scale of 1:10.   **[10]**

c)   Draw enlarged detail at the top and bottom of the door shutter.   **[10]**

Q2) A Residential building having floor height of 3.0 m. is to be provided with RCC staircase. Draw an appropriate type of staircase having width 1.2 m with necessary finishes and detailing.

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

b)   Draw section at 1:20 scale of staircase showing main reinforcement detail.**[10]**

c)   Draw railing fixing detail, tread and riser finishing detail at 1:10   **[10]**

Q3) Draw proportionate sketches with nomenclature of **any Three** of the following.**[30]**

a) Draw a section through RCC lift shaft for a G+4 storey building showing installation provisions in civil work.

b) Joinery details for single bed to be assembled with solid wood sections for framing and provided with plywood top.

c) Mass retaining wall and Counterfort retaining wall with reinforcement detail.

d) Single Basement construction with internal tanking.

e) Plan and section of single skin T.W. Partition showing framing and finishing material.

f) Draw fixing detail of steel truss to steel stanchion and steel stanchion to stub column.

SECTION - II

Q4) Answer **any five** of the following.   [40]

a) What is light weight concrete? Explain its advantages.

b) Explain with sketches types of Raft foundations.

c) Explain with sketches construction of reinforced brick work.

d) Explain any four types of glass used in building industry.

e) Explain the uses of stainless steel in building industry.

f) What is Guniting? Explain the process of Guniting.

g) Explain the process of polishing of new woodwork.

h) Modular coordination system by CBRI any two.

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[4962] - 302

T.Y. B.Arch.

THEORY OF STRUCTURES - III

(2008 Pattern) (2008 Bridge Course)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :-

 1)   Answer any 3 questions from each section.

 2)   Answer should be written in separate answer books.

 3)   Neat diagrams must be drawn wherever necessary.

 4)   Figures to the right indicates full marks.

 5)   Use of non programmable calculators and steel tables allowed.

 6)   Assume suitable data if necessary.

 7)   Use Fe415 steel and M20 grade concrete.

SECTION - I

Q1) Write short notes on any four.   **[16]**

 a)   Types of foundations to be used in black cotton soil

 b)   Foundation problems on site

 c)   Types of staircases based on support conditions

 d)   Necessity of combined footing

 e)   Active and passive earth pressure

 f)   Drainage of retaining wall and its effect

Q2) A rectangular column of size 450mm × 450mm is subjected to a load of 1000 KN and rests on a soil of S.B.C of 300 kN/m^2

Calculate the area of the footing.   **[3]**

Find the depth of the footing and Calculate Area of steel in both directions. **[6]**

Draw a sketch of the reinforcement in plan and section and Make a schedule of the footing.   **[4]**

Check for two way shear.   **[4]**

P.T.O.

Q3) Design a R.C.C doglegged staircase for a residential building for the following data

a)   Width of the flight - 1200 mm

b)   Floor to floor height - 3000 mm

c)   Riser - 150 mm

d)   Tread - 275 mm

e)   The staircase is supported on 230 mm wide beams on outer edges of landings.

f)   Calculate load on the staircase .   **[6]**

g)   Calculate depth and steel for the staircase.   **[7]**

h)   Draw reinforcement sketch and make a schedule for the same.   **[4]**

Q4) A Masonry Retaining wall is proportioned as follows   **[16]**

Retained earth is on the vertical face of the wall

Density of retained earth 18 kN/m³.

Angle of repose - 28°

Coefficient of friction - 0.55

S.B.C of soil - 250 KN/m³

Density of masonry - 22 kN/m³

Top Width 1500 mm

Base width 4000 mm

Height of wall 5 m

a)   Check for sliding   **[6]**

b)   Check for overturning   **[6]**

c)   Calculate maximum and minimum pressure at base.   **[4]**

SECTION - II

Q5) Write short note on any four [16]

    a) Plate girder

    b) Advantages of pre-stressed concrete over RCC

    c) Elements of intze tank

    d) Earthquake resistant detailing for R.C.C. beam column junction

    e) Counterfort retaining wall

    f) Explain the difference between ultimate load method and limit state method

Q6) a) A prestressed concrete beam of overall size 300mm × 500mm is simply supported over a span of 6.3 m. The beam carries an udl of 22 kN/m over its entire span inclusive of its self weight. The prestressing tendons are located at a distance of 75mm from the neutral axis and provides a prestressing force of 950 kN. Calculate the extreme fibre stresses at Mid span and at End Span. [10]

    b) Write a short note on underground watertank. [6]

Q7) a) Two column of size 380 mm × 380 mm and 580 mm × 580 mm carry loads of 750 kN and 1230 kN respectively and are spaced 1.7 m apart centre to centre and rest in a soil of S.B.C of 200 kN/m². Find the plan dimensions of the combined footing. Draw a sketch of the plan. [9]

    b) Write short notes on any two [8]

        i) Raft foundation

        ii) specifications of battening for steel stanchions

        iii) Portal frames

        iv) Castellated girders

Q8) A compound Stanchion is made of 2 number ISMC 300 placed back to back and these are to be laced.

Find the distance between the two so that they take maximum load. **[3]**

Explain the reasons for the above. **[3]**

Find the maximum load it can carry if the stanchion is fixed at one end and hinged at the other end. It has a height of 3.75 m. Multiply the slenderness ratio by 1.1 for battened connections and by 1.05 for Laced connections. **[4]**

Design the Lacing System and Draw a sketch of the same. **[7]**

S.R (λ)	Stresses in N/mm^2
10	218
20	215
30	197
40	179

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[4962] - 303

T.Y.B. Arch.

BUILDING SERVICES - II & BUILDING SERVICES- I (Bridge Course)

(2008 Pattern)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :-

1) *Answers to two sections should be written in seperate answer books.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*

SECTION - I

Q1) Answer any two questions from the following: **[2 × 15 = 30]**

   a) What are the types of blowers used in Mechnical Ventilation system in an enclosed space? Describe with sketches.

   b) What are the different kinds of contaminants or air pollutants that are harmful to the users? State the different kinds of filters and explain how they are effective in purifying the air in air-conditioning system.

   c) Calculate the number of exhaust fans required for a community kitchen measuring 10m × 5m × 3m. Show the position of fans in plan and section.

Data to be assumed	Fan dia. (mm)	Air handling capacity (cu.m / hr.)
	305	1900
	380	4000
	457	6800

Q2) Short notes (with sketches wherever necessary) (Any Four):   **[4 × 5 = 20]**
   a) Stack effect
   b) Split A.C. System
   c) Plenum system of ventilation
   d) Evaporator
   e) Cooling tower
   f) A.C. Ducting system

P.T.O.

SECTION - II

Q3) Answer any two questions from the following: **[2 × 15 = 30]**

    a)   Explain with sketches various methods of controlling the structure borne noise in construction of wall and floors.

    b)   State Sabine's Formula for finding reverberation time. Discuss about various types of acoustical materials used for sound insulation in a building.

    c)   What are the different types of fire-fighting materials or agents used? State the suitability of these materials for specific kinds of fire. Explain the components, working principle and installation of the sprinkler system used for firefighting purpose.

Q4) Short notes (with sketches wherever necessary) (Any Four):   **[4 × 5 = 20]**

    a)   Defects of sound

    b)   Static water tank for fire fighting

    c)   Cutting off air-borne noise

    d)   Classification of fire

    e)   Smoke detectors

    f)   Fire proof door

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[4962] - 304

T.Y. B.Architecture

ARCHITECTURAL DESIGN - III (Enlodge)

(2008 Pattern)

Time : 12 Hours] *[Max. Marks : 100*

Instructions to the candidates :-

1) Your design responses shall be valued as a whole.

2) Assume suitable data if necessary.

3) Single line sketch plans of the entire scheme with the site to the required scale shall be submitted by the students before as at the end of the first day.

4) These drawings shall not be returned to the students. Therefore due record shall be kept for subsequent time after the submission of the sketch design.

5) The students shall not make any considerable departure from the sketch design submitted on the first day.

6) The drawings should be self explanatory with structural scheme, clarity in all plans, sections and elevations.

7) Skill of the drafting should have language of architecture.

1) **PREAMBLE**:

Pune city is contributing for the education of adults through few government and NGO institutes. The Institute of Adult education is one of the prime state level institute for training the teachers for adult education. The primary teachers from all over the state are sent for short term training programmes. The site is located within Pune University. The plot is totally leveled.

2) **SPACE PROGRAM**

i) Plot area : 4800 Sq.M

ii) Maximum Permissible ground coverage : 35%

iii) Front set back : 6.00 M

iv) Side set backs : 4.50 M

v) F.S.I : 1:1

vi) Staircases, passages, lobby etc. as per design concept.

vii) Proper provision for circulation, landscaping, ramps are to be provided.

viii) Storied building with maximum utilities of available F.S.I and proper floor wise segregation of activities is envisaged.

P.T.O.

3) BUILDING REQUIREMENTS

a) ACADEMIC REQUIREMENTS :

    i)   Entrance 10 sq.m.

    ii)   PRO 12.00 sq.m.

    iii) Conference room 18.00 sq.m.

        (16 persons)

    iv) Seminar hall 1 - 90.00 sq.m.

        (40 persons)

    v)   Seminar hall 2 - 90.00 sq.m.

        (40 persons)

    vi) Library - 20 people 30.00 sq.m.

        and book stacking

    vii) Auditorium cum multi - purpose - 100 capacity hall

        with green room

    viii) Toilets for gents and ladies - as required

b) ADMINISTRATIVE OFFICE :

    i)   Clerical staff working area 75.00 sqm

        (12 persons)

    ii)   Deputy. Directors (3 persons) 10.00 sqm each

    iii) Accounts department 8 sq.m each

        (2 persons - small cabins)

    iv) Adequate toilet facility for staff - as required

    v)   Director's cabin with 16 sq.m

        ante chamber and toilet 16 sq.m

c) ACCOMODATION (TRAINEES) :

Accommodation for trainees who camp for 8-15 days.

    i)   Rooms for Two with attached - 23.00 sqm each

        toilet - 16 nos

    ii)   Dining hall , kitchen and - 120.00 sq.m

        store for trainees

    iii) Guest suites with toilets 4 nos - 50.00 sqm

    iv) Waiting and dining area - 25.00 sqm

        with Pantry

    v)   Director's residence with - 95.00 sq.m

        2 BHK type configuration

d) ACCOMODATION (STAFF)

    i)   Manager's residence -1BHK type 75.00 sqm

        Master Bedroom with attached toilet

    ii)   Caretaker's residence - as reqd.

        1 room kitchen type accomodation

        on ground floor.

e) Adequate parking facility for director and staff. (Director's car and staff two wheelers)

Visitors' two and four wheeler parking

4 wheeler - 10 no's
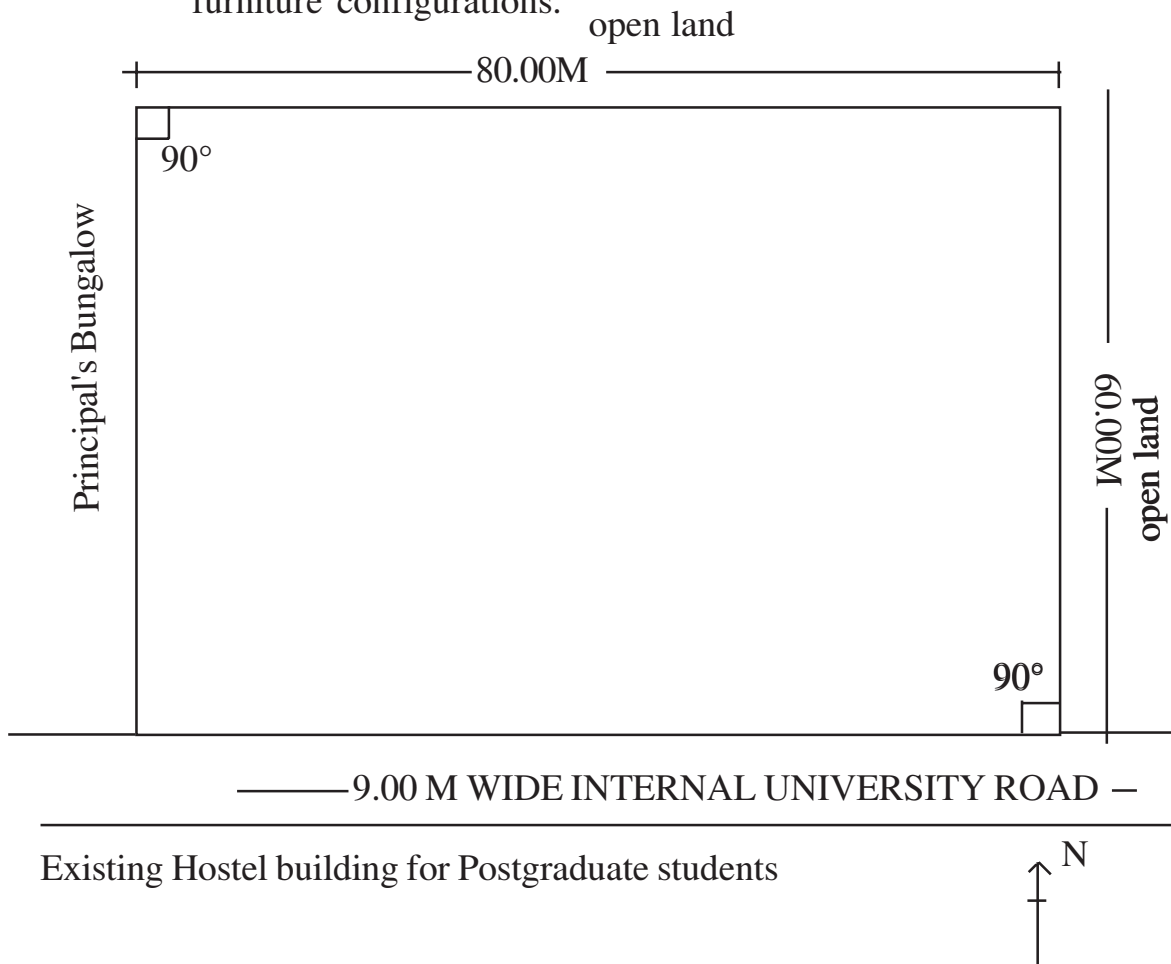
2 wheeler - 30 no's

DRAWING REQUIREMENTS

I)   FIRST DAY SUBMITTAL

- Zoning plan with distribution of activities.

- Site plan at 1:200 scale with location of built form - open space structure.

- Section showing overall massing of building.

II) FINAL SUBMITTAL

- Site plan and site sections - 1:200 scale

- All floor plans - 1:100

- Minimum 2 sections 1:100

- 2 elevations - 1:100

  (Roadside elevation is compulsory)

- Sketch view showing qualitative aspects of built environment.

- All floor plans shall indicate various activities through internal furniture configurations.

open land

80.00M

90°

Principal's Bungalow

60.00M

open land

90°

———— 9.00 M WIDE INTERNAL UNIVERSITY ROAD —

Existing Hostel building for Postgraduate students

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T.Y. B.Arch.

BUILDING TECHNOLOGY & MATERIALS - III

(2008 Pattern) (Bridge Course)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :-

1) *Answers to Section I should be solved on drawing sheets only & Section II should be written in separate answer books.*

2) *Solve any 2 questions from section 1 and Question 4 is compulsory.*

3) *Neat diagrams with dimensions must be drawn wherever necessary.*

4) *Figures to the right indicate full marks.*

5) *Assume suitable data, if necessary.*

SECTION - I

Q1) A corporate office is to be provided with straight sliding single shutter door to an opening between the general office and conference hall. Opening size is 1200 × 2100mm.

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

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

    c)   Draw enlarged detail at the top and bottom of the door shutter.   **[10]**

Q2) A residential building having floor height of 3.0 m. is to be provided with RCC staircase 1.2 m wide. Draw a dog legged staircase with necessary finishes and detailing.

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

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

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

P.T.O.

Q3) Draw sketches of **any Three** of the following.   [30]

    a)   Draw a section through an escalator for a mall building.

    b)   Joinery details for Dining table to be assembled with solid wood sections for framing and provided with glass top.

    c)   Terminology of retaining wall and types of retaining wall.

    d)   Single Basement construction with external tanking.

    e)   Plan and section of T.W. Bay window.

    f)   Any three CBRI roofing systems.

SECTION - II

Q4) Write short notes with sketches **any five** of the following.   [40]

    a)   Ready mix concrete.

    b)   Guiniting.

    c)   Pile foundation.

    d)   Setting out structure.

    e)   Use of glass in building industry.

    f)   Use of stainless steel in building industry.

    g)   Castellated beam.

    h)   Explain with sketches natural stone cladding to building.

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[4962] - 34
Third Year B.Arch.
QUANTITY SURVEYING & ESTIMATING (Theory)
(2008 Bridge Pattern)

Time : 3 Hours]
[Max. Marks : 100

Instructions to the candidates :-

1) *Answer all questions from each section.*

2) *Answer to the two Sections should be written in separate answer books*

3) *Neat diagrams must be drawn wherever necessary.*

4) *Figures to the right indicate full marks.*

5) *Use of the logarithmic tables, slide rules, mollier charts, electronic pocket calculator & steel tables is allowed.*

6) *Assume suitable data, if necessary.*

<u>SECTION - I</u>

Q1) A) Workout the quantities of the following items of work for the structure shown in the drawing (Fig-1), based on the details and data specified below. (Any eight) **[40]**

i) Brick work for steps

ii) P.C.C. for footing

iii) R.C.C. Columns in plinth

iv) Neeru finish wall plaster for kitchen & bedroom only (Wall & ceiling)

v) Floor tiles for Living/dining and kitchen only (without skirting)

vi) Skirting for Living/dining and kitchen only

vii) Aluminium windows and ventilator

viii) Dado for toilet

ix) Painting for Bedroom (Wall & Ceiling)

x) Door frame for D1 of section 100 mm × 75 mm

P.T.O.

Data:

    Thickness of the slab: 125 mm   Column Sizes : 230 mm × 450 mm

    Column footing sizes : 1.20 m × 1.50 m D : 600 mm d : 150 mm

    Thickness of P.C.C. : 150 mm

    Bearing of lintel : 75 mm on one side   Dado in toilets : 2.10 m high

B)   State the unit of measurement as per I.S. code 2000 (Any ten)   **[10]**

Structural steel	Brick masonry 150 mm thick
P.C.C. for footing	Gully Trap
OH Water tank	External wall plaster
Kitchen sink	R.C.C Columns
Rubble soling	T.W. Railing
R.C.C. Chajja	Towel rod

SECTION - II

Q2) Prepare Rate analysis based on the rates given below (Any three)   **[15]**

    a)   Tor Steel reinforcement for 1.0 metric ton (MT)

    b)   P.C.C. (1:3:6) for floor base

    c)   R.C.C. Columns (1:2:4)

    d)   Brick work for steps in 1:6 CM

Material Rate	Labour Rate
Cement : Rs 300/- per bag	P.C.C. : Rs 800/- Cum
Sand : Rs 1000/- per cu meter	Steel : Rs 3000/- per MT
Aggregate : Rs 750/- per cu meter	R.C.C column : Rs 4000/ CUM
Steel : Rs 42000/- per MT	Brick work : Rs 1500/sqm
Binding wire : Rs 50/- per Kg	
Bricks : 8.0 / No	

Q3) Write short notes on the topics given below (Any three)   **[15]**

   a)   Detailed Estimate.

   b)   Spot items

   c)   Measurement sheet

   d)   Overhead Charges

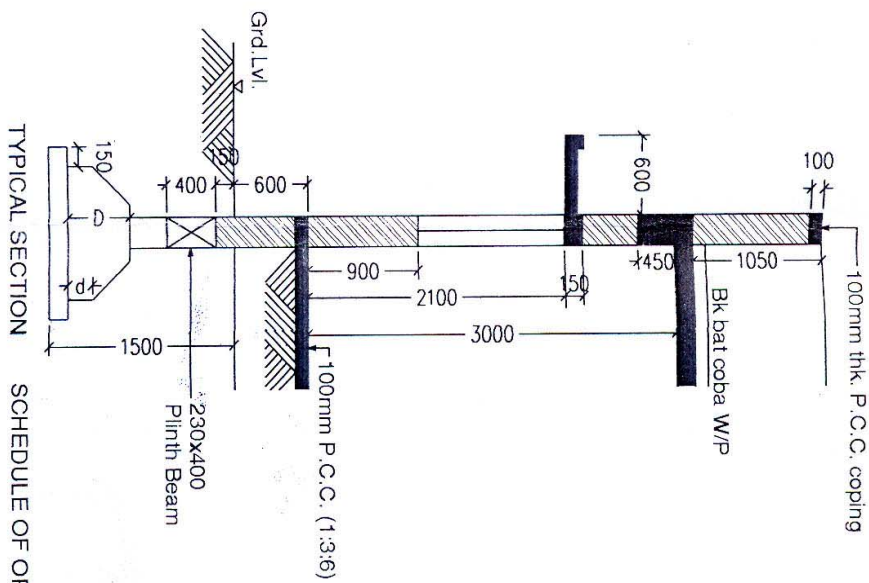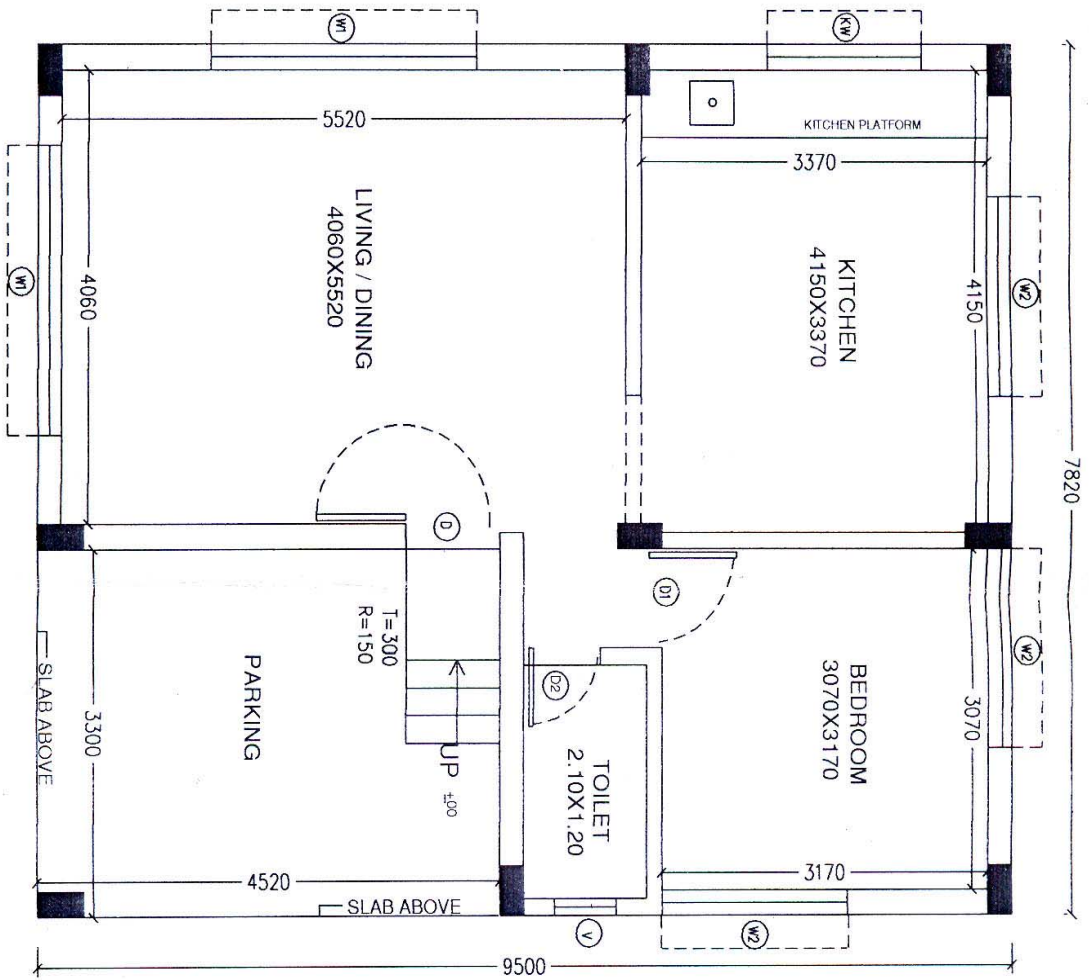   e)   Classification of Excavation strata as per IS : 1200

Q4) Describe the following items of work as described in the BOQ (Any two)   **[10]**

   a)   Vitrified tile skirting 100 mm Ht.

   b)   110 mm thick B.B. masonry.

   c)   M.S / Tor steel Reinforcement.

   d)   Aluminium windows.

Q5) Prepare the indent of material for following items of work (Any two)   **[10]**

   a)   P/C Brick Work for steps in CM 1:6 for 150 Cum

   b)   P/A internal Plaster 15 mm in 1:4 CM for 150 Sqm

   c)   P/C U.C.R. in CM 1:6 for 90 Cum

GROUND FLOOR PLAN

LIVING / DINING
4060X5520

KITCHEN
4150X3370

KITCHEN PLATFORM

PARKING

BEDROOM
3070X3170

TOILET
2.10X1.20

UP

T=300
R=150

SLAB ABOVE

SLAB ABOVE

5520
3370
4060
4150
7820
3070
3300
4520
3170
9500

W1
KW
W2
W
D
D1
D2
V
W2

TYPICAL SECTION

Grd. Lvl.

100mm thk. P.C.C. coping

Bk bat coba W/P

100mm P.C.C. (1:3:6)

230x400
Plinth Beam

150
400
600
600
100
900
2100
150
450
1050
3000
1500
D
d

SCHEDULE OF OPENINGS.

W1 = 2600 x 1200
W2 = 1800 x 1200
KW = 1500 x 1200
V   = 600 x 900
D   = 1000 x 2100
D1 = 900 X 2100
D2 = 750 x 2100

FIG. NO. 1

[4962]-35

Third Year B.Arch-Bridge

SPECIFICATION WRITING

(2008 Pattern)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates:-

1)   *Questions two and seven are compulsory.*

2)   *Answer to the two sections should be written in two separate books.*

3)   *Neat diagrams must be drawn wherever necessary.*

4)   *Figures to the right indicate full marks.*

SECTION - I

Q1) What aspects are considered in writing detail specification? Discuss any one type by writing specifiaction in detail.   **[15]**

OR

Discuss the relation between working drawing and specification writing. Discuss the relation between bill of quantities and specification writing.

Q2) Define specification writing. Explain importance of specification writing in contract document.   **[10]**

Q3) Write material specifications for (any three)   **[15]**
   a)   Cement
   b)   Glass for Glazing
   c)   Bricks
   d)   Water
   e)   Sand
   f)   M.S. Reinforcement

Q4) Write brief specification for (any three)   **[10]**
   a)   R.C.C. Staircase

   b)   Cement plaster with Neeru finish

   c)   Internal painting

   d)   Random Rubble Masonary

SECTION - II

Q5) Write short notes (any four)   [20]

    a) Accessibility for disabled persons

    b) Types of electrical wiring

    c) Renewable Energy applications

    d) Types of water proofing

    e) Fireproof doors

    f) Soundproof partitions

Q6) Explain the function of (any four)   [20]

    a) Deluge systems

    b) Water seal in traps

    c) Filters in Air conditioners

    d) Transformers

    e) Fuse

    f) Travellators

Q7) Write names of the manfacturers for the materials (any ten)   [10]

    a) Awnings

    b) Cement

    c) Glazed tiles

    d) Lift

    e) Wash Basin

    f) Water storage tank

    g) External paint

    h) Roofing tiles

    i) Escalators

    j) Kitchen sinks

    k) Water taps

    l) Drainage pipes

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[4962] - 402

Fourth Year B. Arch.

PROFESSIONAL PRACTICE

(2008 Pattern) (Regular)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :-

1)   Question nos. 1 and 6 are compulsory. Out of the remaining attempt 2 questions from Section I and 2 questions from Section II.

2)   Answer to the two sections should be written in separate books.

3)   Figures to the right indicate full marks.

SECTION - I

Q1) Write a comprehensive note on an Architects Work. Describe a typical Administrative structure and Layout of an Architects Office.   **[20]**

Answer any TWO of the following:

Q2) What is the Council of Architecture? What is its composition, and what is its function and role in the Architectural profession in India?   **[15]**

Q3) Write a detailed note on The indian institute of Architects, 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

    b)   Easements

    c)   Market Value

    d)   Power of Attorney

    e)   Arbitrator.

    f)   Sinking fund

P.T.O.

Q5) Write short Notes on ANY THREE of the following : (5 Marks Each) **[15]**
    a)   Architectural supervision of construction work
    b)   Professional Fees for Architectural services
    c)   Composition and Layout of an Architects office
    d)   Professional Liabilities of Architects
    e)   Architects Agreements with other consultants
    f)   Stages of Architects work from Design to completion

SECTION - II

Q6) Write a comprehensive note on TENDERING, highlighting various types of Tenders, Systems of Tendering and their advantages and disadvantages. **[20]**
Answer ANY TWO of the following:

Q7) What are EASEMENTS? Describe different types of Easements, and elaborate with sketches where necessary. **[15]**

Q8) Write a comprehensive note on ARCHITECTURAL COMPETITIONS giving the types and procedure with advantages and disadvantages if any.**[15]**

Q9) Compare and contrast ANY THREE of the following (5 marks each) :**[15]**
    a)   Bonus Clause and Penalty Clause in Tenders
    b)   Proprietory and Partnership practice
    c)   Defects Liability Period and Extended period
    d)   Earnest Money Deposit and Security Deposit
    e)   Cost, Price and Value
    f)   Open and Invited Tender

*Q10)*Write short notes on ANY THREE of the following (5 marks each) : **[15]**
    a)   Running Account Bills
    b)   Virtual Completion
    c)   Advertising by Architects
    d)   Sentimental Value
    e)   Pre-qualification system
    f)   Tender Notice

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[4962] - 402

Fourth Year B. Arch
PROFESSIONAL PRACTICE
(2008 Bridge Pattern)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :-

     1)   *Question nos. 1 and 6 are compulsory. Out of the remaining attempt 2 questions from Section I and 2 questions from Section II.*

     2)   *Answer to the two sections should be written in separate books.*

     3)   *Figures to the right 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) Write a comprehensive note on on The Indian Institute of Architects, highlighting its History in brief, and its Role and Activities as an Istitution of Architects.   **[15]**

Q3) What is the Council of Architecture? What is its composition, and what is its function and role in the Architectural profession in India?   **[15]**

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

     a)   Contract Agreement

     b)   Easements Rights

     c)   Market Value

     d)   Power of Attorney

     e)   Arbitrator.

     f)   Sinking fund

Q5) Write short Notes on ANY THREE of the following : (5 Marks Each) **[15]**
    a)   Professional Conduct of an Architect
    b)   Architects Agreements with other consultants
    c)   Stages of Architects work from Design to completion
    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 on the TENDERING PROCESS by PRE-QUALIFICATION method, 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)   Payment of mobilization and Material Advance
    b)   Earnest Money Deposit and Security Deposit
    c)   Cost, Price and Value
    d)   Freehold and Leasehold Land Tenure
    e)   Proprietory and partnership practice
    f)   Dominant Heritage and Servient Heritage

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

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Fourth Year B. Arch.
QUANTITY SURVEYING & ESTIMATING (Theory)
(2008 Pattern)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :-

1) *Answer all questions from each section.*

2) *Answer to the two Sections should be written in separate answer books.*

3) *Neat diagrams must be drawn wherever necessary.*

4) *Figures to the right indicate full marks.*

5) *Use of the logarithmic tables, slide rules, mollier charts, electronic pocket calculator & steel tables is allowed.*

6) *Assume suitable data, if necessary.*

SECTION - I

Q1) A) Workout the quantities of the following items of work for the structure shown in the drawing (Fig-1), based on the details and data specified below. (Any eight)   **[40]**

   i)   R.C.C. column footing

   ii)   Ceramic tiles dado for all toilets

   iii)   Painting only for Master bedroom (walls & ceiling)

   iv)   R.C.C. slab

   v)   Floor tiles for Bedrooms and living only (without skirting)

   vi)   R.C.C. staircase (waist slab and steps)

   vii)   Brick masonry walls 230 mm for ground floor

   viii) Oil paint for doors only

   ix)   R.C.C. beams (external and internal)

   x)   Door frame for D1 of section 125 mm × 75 mm

P.T.O.

Data:

- Thickness of the slab: 150 mm   Floor to floor height: 3.05 m

  Height of the parapet: 0.90 m   External Beams: 230 mm × 600 mm

  Internal beams: 230 mm × 450 mm

- Column Sizes : C1 : 230 mm × 500 mm, C2 : 230 mm × 230 mm

  Offset at footing : 100 mm

- Column footing sizes : C1: 1.0m × 1.20 m, C2 : 1.0 m × 1.0m

  D: 650 mm, 2: 150 mm size of P.C.C. for C1 : 1.20 m × 1.40m,

  C2 : 1.20 m × 1.20 m

  Thickness: 150 mm

- Depth : 1.50 m from ground level   Bearing of lintel :150 mm on
  Dado in -toilets : 2. 10 m high   one side

- Doors   Windows

  D: 1.20 m × 2.10 m   W : 1.50 m × 1.20 m

  D1 : 0.90 m × 2.10 m   W1 : 0.900 mm × 1.20 m

  D2 : 0.750 m × 2.10 m   V : 0.30m × 0.45 m

B)   State the unit of measurement as per I.S. code 2000 (Any ten)   **[10]**
      Teak wood door frames   P.V.C. overhead water tanks

      Bib cocks   16 amp electrical points

      Water closet   Column footing

      Excavation work   Site clearance

      Manhole   D.P.C. layer

      R.C.C. beams   Sewage pipes

SECTION - II

Q2) Prepare Rate analysis based on the rates given below (Any three)   **[15]**
   a)   Brick masonry in CM 1:6 for 230 mm thick wall

   b)   U.C.R in CM 1:6 for boundary wall

   c)   Sand faced plaster work in CM 1:6 for external wall

   d)   Dado glazed tiles on wall

Material Rate		Labour Rate	
Cement	: Rs 300/- per bag	Brick Work	: Rs 1500/- per cu meter
Sand	: Rs 1400/- per cu meter	U.C.R. masonry	: Rs 700/- per cu meter
Brick	: Rs 8000/- per 1000 nos.	External plaster work	: Rs 200/- per sq meter
Stone/rubble	: Rs 290/- per cu meter	Dado tiles	: Rs 350/- per sq meter
Dado tiles	: Rs 650/- per sq meter		
colour cement	: Rs 50/ - per Kg		

Q3) Write short notes on the topics given below (Any three)   **[15]**

a)   Work order

b)   Guidelines for entering a measurement sheet

c)   Abstract sheet

d)   Volumetric measurement

e)   Bill of quantities

Q4) Describe the following items of work as described in the bill of quantities (Any two)   **[10]**

a)   Vitrified tile flooring

b)   900 mm × 450 mm inspection chamber

c)   Wash hand basin

d)   Excavation in soft soil

Q5) Prepare the indent of material for following items of work (Any two) **[10]**

a)   20-25 mm thick external sand faced plaster for 50 sq meter

b)   Brick masonry wall (230 mm) in CM 1:6 for 24 cu meter

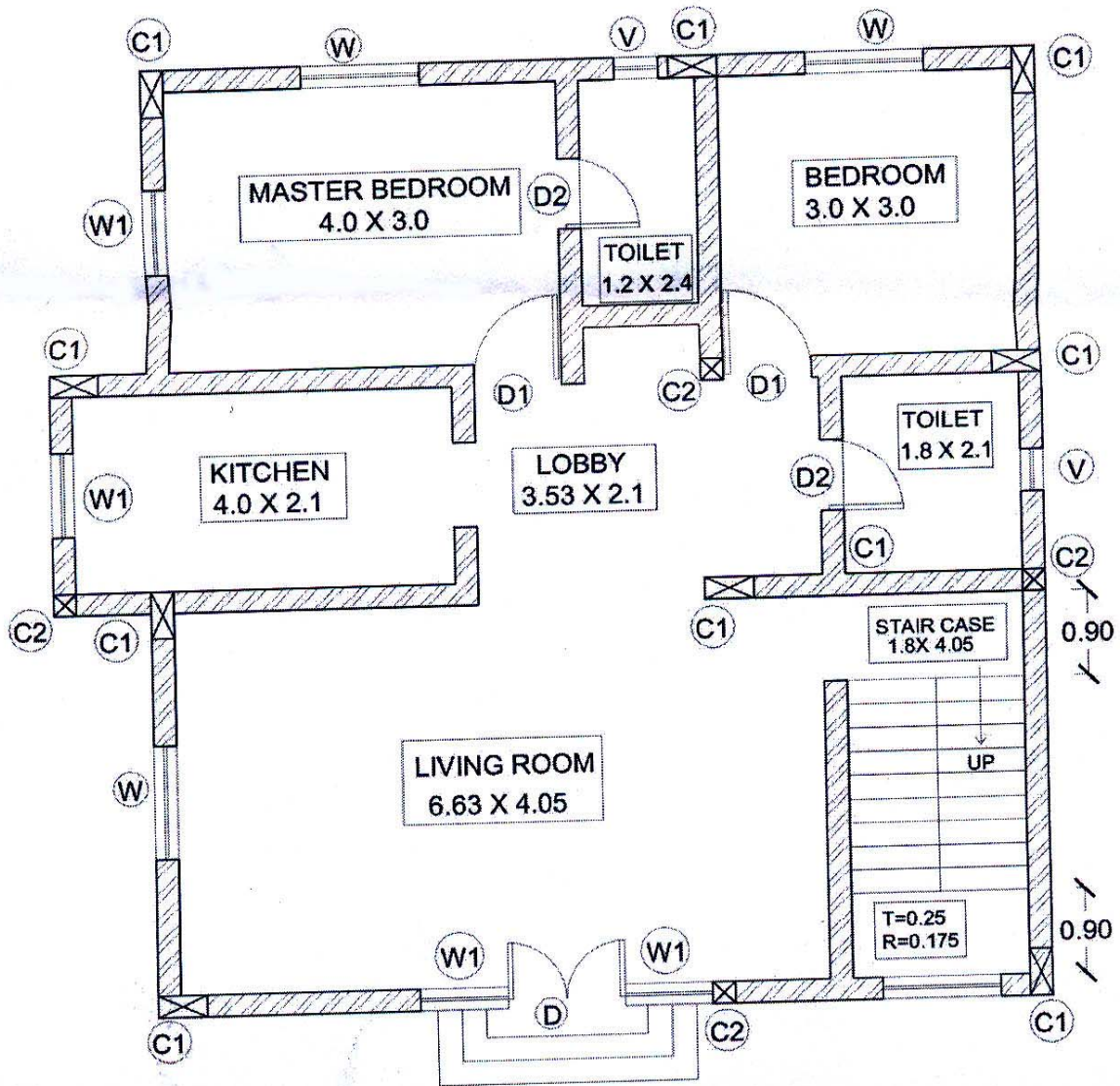c)   Ceramic floor tile (300 mm × 300 mm) for 90 sq meter

Fig. 1. Ground Floor Plan   Note : All dimensions are in meters

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Fourth Year B. Arch.

SPECIFICATION WRITING

Time : 3 Hours] [*Max. Marks : 100*

Instructions to the candidates:-

    1)   ***All questions are compulsory.***

    2)   ***Figures to the right side indicate marks.***

Q1) Define specification writing. Discuss the necessity of including specifications in tender documents. Discuss importance of Material testing in construction work. **[15]**

OR

Explain precautions to be taken during the demolition work of a existing ground storied bungalow.

Q2) Explain with examples how to write open specifications & closed specifications. **[10]**

OR

Write detailed specifications for excavation in Hard Murum.

Q3) Write brief specifications for (any three) **[15]**

    a)   Internal brick wall

    b)   External cement plaster

    c)   Teak wood door

    d)   Vitrified tile flooring

Q4) Write material specifications for (any two) **[10]**

    a)   Fly Ash Bricks

    b)   MS Reinforcement

    c)   Sand

    d)   Timber

Q5) Write short notes on (any four) **[20]**
    a)   Toilet facilities for disabled persons
    b)   Biogas plant
    c)   Types of pipes ideal for water supply
    d)   Defects of sound
    e)   Portable fire extinguishers

Q6) Explain the function of (any four) **[20]**
    a)   Dry & Wet Risers
    b)   Solar water heaters
    c)   Transformers
    d)   Compressors in air conditioners
    e)   Escalators

Q7) Write names of manufacturer for the materials (any ten) **[10]**
    a)   Tinted Glass
    b)   Internal paint
    c)   Drainage pipes
    d)   53 grade cement
    e)   Vitrified tiles
    f)   European water closet
    g)   Asbestos cement sheets
    h)   Light weight doors
    i)   Water storage tank
    j)   Roofing tiles
    k)   MS windows

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Fourth Year B. Arch.

TOWN PLANNING

(2008 Pattern) (Bridge Course)

Time : 3 Hours]
[Max. Marks : 100

Instructions to the candidates :-

1) Que. 1 & Que. 6 are compulsory.

2) Answer Any three questions from Each Section from the ramaining.

3) Answer 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) Write note on Neighbourhood concept by clearance perry. **[14]**

Q2) Write a note on Natural Growth & Planned Growth of Towns & Cities. **[12]**

Q3) Write notes on (Any 3) **[12]**

   a) Set backs

   b) Detached houses & Semi detached houses

   c) Cul - de - Sac streets

   d) Padmaka & Swastika

Q4) Elaborate the features of Garden city. **[12]**

Q5) Describe Rectangular, Concentric & Radial street system of roads. **[12]**

SECTION - II

Q6) Write a note on M.R. & T.P. Act. **[14]**

Q7) Write short notes on : (Any 3) **[12]**

    a) Types of Surveys in Planning

    b) Planning standards

    c) Town centers

    d) Typical road section of a 4 - lane highway and its various components.

Q8) What is Grade separation? Write any 3 types of interchange. **[12]**

Q9) Explain the provision of 74th Amendment in constitution of India. **[12]**

Q10) Describe the importance of DC Regulations in Planning. **[12]**

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