Total No. of Questions : 4] **[Total No. of Pages : 2**

P1231

[3867] - 1156

First Year M.Arch. (Environmental Architecture)

EA 103: HOUSING AND ENVIRONMENTAL PLANNING

(Sem. - I) (New Syllabus)(Theory)

Time : 3 Hours] ***[Max. Marks : 75***

SECTION - I

Q1) Write Briefly on Any Two : **[15 Marks each]**

a) Write in detail regarding the Three Magnet Theory of Ebenezer Howard. Illustrate with sketches and write your opinion on how this theory is evident in Indian cities and towns.

b) What are the various Green Building Rating Systems used commonly in India? Write briefly about each. Make a comment on how Green Buildings are helping sustainable city development.

c) Write briefly your opinions and thoughts on Urban Sprawl versus Compact City with reference to Sustainability in planning.

Q2) Write Short Notes on Any Three : **[5 Marks each]**

a) Carrying Capacity.
b) Advocacy planning.
c) Rational comprehensive planning theory.
d) Local Agenda 21.
e) Sustainability in transportation.

SECTION - II

Q3) Write briefly on Any Two : **[10 Marks each]**

a) Write your thoughts and opinions on the Maharashtra State Housing Policy. What do you feel are the impact of this policy on the Housing sector in the state?

P.T.O.

b) Discuss in brief the efforts taken by the government to address the issue of growing slums in cities. Express your opinion on slum rehabilitation, resale of the compensated house by the slum dwellers and TDR generation and other tools developed under the SRA.

c) Express your opinion about the housing development in pune. Express your thoughts on the Eco Housing Scheme of Pune Municipal Corporation.

Q4) Write short notes on Any Two : **[5 Marks each]**

a) Cooperative Housing.

b) Creating slum free cities.

c) HUDCO.

d) Rural Housing.

****

Total No. of Questions : 8] **[Total No. of Pages : 2**

P1232

[3867] - 1157
F.Y. M.Arch. (Landscape Architecture)
NATURAL SCIENCES
(Sem. - I) (2008 Syllabus) (Credit System)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Q.1 in Section I is compulsory.***
2) ***In Section I solve any three out of the remaining 4 questions.***
3) ***Neat sketches must be drawn wherever necessary.***
4) ***Section I - 40 Marks, Section II - 35 Marks.***

SECTION - I

Q1) Give a list of biomes and describe any one of them in detail with respect to distribution, soil, climate rainfall. **[10]**

Q2) Explain with diagrams, use of any one of landscape design elements in modifying the microclimate. **[10]**

Q3) Describe soil formation process in detail. **[10]**

Q4) What is continental drift theory? Explain various evidences supporting the drifting of the continents. **[10]**

Q5) Explain the following terms (any two) : **[5 Marks each]**

a) Porosity.
b) Permeability.
c) Water - table.
d) Types of rocks.

P.T.O.

SECTION - II

Q6) Short notes on any three of the following : (Any 3) **[5 Marks each]**

a) What is diffusion? Describe process of diffusion.

b) Define flower. Describe different parts of a typical flower.

c) Plant ecology. Basic concepts of ecology.

d) Mangroves. Characteristics and conditions.

e) Sacred Groves.

Q7) Types of Indian forests based on rainfall along with dominant species. **[10]**

Q8) Plant Growth with respect to definition, phases of growth, external and internal factors affecting growth. **[10]**

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P1233

[3867] - 1158

M.Arch. (Landscape Architecture)

LANDSCAPE TECHNOLOGY - I

(Sem. - I) (2008 Syllabus) (Credit System)

Time : 3 Hours] *[Max. Marks : 75*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Section I carries 40 marks and Section II carries 35 marks.***
3) ***Base drawings related to questions are enclosed if any.***
4) ***Drafting equipment and calculators may be used, if required.***
5) ***Assume necessary data if required.***
6) ***Answer questions of each section on SEPARATE answer sheets.***

SECTION - I

Q1) Explain the characteristics of contour lines and their importance in landscape design. Illustrate the following landforms with diagrams:

a) Overhanging cliff.
b) Ridge and valley.
c) Uniform and undulating slope. **[10]**

Q2) What is soil erosion? Explain the causes and the methods to control soil erosion. **[10]**

OR

What are the effects of urbanization on storm water run-off? Explain the measures for reducing and delaying storm water run-off in urban areas?

Q3) Write short notes on **any two** of the following :

a) Open Drainage system.
b) Rain Water Harvesting.
c) Manning's and Continuity equation. **[10]**

Q4) A 10 m grid is marked on the site. The spot levels given are as under. Mark the positions of all the whole number contours passing through them. Assess the gradient between A1 and B2.

A1 56.7 A2 55.8
B1 55.5 B2 54.8
C1 55.1 C2 54.7 **[10]**

P.T.O.

SECTION - II

Q5) A 10 - acre drainage area consists of 3 - acre parking area (C = 0.9), 2 acres of lawn (C = 0.3) and remaining area with trees (C = 0.3). Intensity of 10 yr design storm is 4 inches per hr. Calculate the peak rate of runoff. **[10]**

Q6) What are the different methods of retaining earth? Explain with sketches. **[10]**

OR

What are the methods of computing cut and fill volumes? Explain any one method with supportive sketches.

Q7) Draw a plan, cross section of a typical road (6 m wide + 1.5 m wide swale on both sides) and minimum 3 contour signatures for the same with reference spot level as 30 meter on the centerline of the road.

Given :

a) Longitudinal slope for the road : 4%

b) Road crown : 0.10 m

c) Longitudinal slope for the swale : 4%

d) Swale depth : 0.10m **[15]**

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Total No. of Questions : 8] **[Total No. of Pages : 2**

P1234

[3867] - 1159

M.Arch. (Landscape Arch.)

THEORY OF LANDSCAPE ARCHITECTURE - I

(2008 Syllabus) (Sem. - I) (Credit system)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Q.1 and Q.6 are compulsory.***
2) ***Out of remaining in Section I solve any three and in Section II solve any one.***
3) ***Neat sketches must be drawn wherever necessary.***
4) ***Section I - 40 Marks, Section II - 35 Marks.***

SECTION - I

Q1) On the basis of a set of common design aspects compare the use of water in Hindu period, Mughal and Colonial gardens in India. **[10]**

Q2) Discuss the association of Landscape and architecture in Italian gardens of the renaissance. **[10]**

Q3) Discuss the design principles of Chinese Gardens. **[10]**

Q4) Explain the effect of poetry and painting on English Gardens of Romantic period. **[10]**

Q5) With the help of sketches explain the sitting and the relationship with surroundings of Mughal gardens in Kashmir. **[10]**

P.T.O.

SECTION - II

Q6) Short notes on any five of the following (any 5) : **[5 Marks each]**

a) Urban open spaces in Greece.

b) Humphry Repton.

c) Vaux le Vicomte

d) Generalife Gardens.

e) Hadrians Villa, Tivoli.

f) Ryoan - ji.

Q7) Explain the association of architecture and cities with the natural landscape in Egypt during the ancient period. **[10]**

OR

Q8) Make a comparison of the French and English Landscape design. **[10]**

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Total No. of Questions : 9] **[Total No. of Pages : 2**

P1235

[3867] - 1160

M.Arch. (Computer Applications)

INTRODUCTION TO COMPUTER APPLICATIONS

(CA - 101) (2008 Course) (613401)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Answer any Three questions from each section.***
2) ***Answers to the Two sections should be written in separate sheet.***
3) ***Use of logarithmic tables, slide rules and electronic pocket calculator is allowed.***
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) Explain various presentation techniques to make a slide show effective. **[6]**

b) What are the benefits of parametric modeling? Explain any parametric software with an example. **[7]**

Q2) a) Describe importance of architectural visualization in today's architectural practice. **[6]**

b) Write difference between **[6]**

i) RGB model - CMYK model.

ii) Data visualization - Knowledge visualization.

Q3) a) Explain any two types of sensors with its uses, applications and sketches. **[6]**

b) How will you work out total security system for small office of 15 people? **[6]**

Q4) a) What is building automation and why it is important? **[6]**

b) Describe any 2 devices used for lighting control in building automation. **[6]**

P.T.O.

SECTION - II

Q5) What is Remote Sensing? Explain with its basic concept and characteristics. **[13]**

Q6) a) Explain the concepts :

i) Datum.

ii) Information

iii) Evidence.

iv) Wisdom. **[7]**

b) What is projection? Mention types of map projections and explain any two of them. **[6]**

Q7) What is GIS? Explain its components and applications. **[12]**

Q8) Explain in brief the use of MIS in building industry eg. In construction management and data management. What are the failure reasons of MIS? **[12]**

Q9) a) What is Management, Information and System? Explain its importance and need? **[6]**

b) Explain how MIS is useful for managers. Give suitable examples. **[6]**

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Total No. of Questions : 10] **[Total No. of Pages : 2**

P1236

[3867] - 1161
M.Arch. (Computer Applications)
(CA 102) : HUMAN COMPUTER INTERFACE
(2008 Course) (613402)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Answer any Three questions from each section.***
2) ***Answers to the Two sections should be written in separate sheet.***
3) ***Use of logarithmic tables, slide rules and electronic pocket calculator is allowed.***
4) ***Neat diagram must be drawn wherever necessary.***
5) ***Figures to the right indicates full marks.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) What is user interface? How can the needs of Novice, knowledgeable, and expert users be accommodated, so as to make a more usable user interface? **[7]**

b) Explain in detail the need to study "Human Computer Interaction" for producing good quality interactive software. **[6]**

Q2) Explain Eight Golden Rules of Interface Design. Do you think that an interface can have all these rules satisfied? **[12]**

Q3) a) State and explain three pillars of User Interface Design Process. **[6]**

b) Explain the guidelines for data display and data entry. **[6]**

Q4) a) What are different Human Factors that are to be considered while designing the user interface? Explain with the help of suitable examples. **[6]**

b) Enumerate different Interaction Styles. Explain the advantages and disadvantages of Direct Manipulation interaction style. **[6]**

Q5) a) Describe important differences between STM (Short - Term Memory) and LTM (Long - Term Memory). **[6]**

b) What important issues need to be considered while designing an interface for users with disabilities? **[6]**

P.T.O.

SECTION - II

Q6) a) Explain virtual environment. How virtual reality help in good interactive design? **[7]**

b) Enumerate different usability evaluation and testing techniques. **[6]**

Q7) a) What is direct manipulation technique? Explain any four metaphors used in this interaction style. **[6]**

b) Explain different menu styles. Comment on depths Vs width of a menu tree. **[6]**

Q8) a) Explain issues in face to face communication for CSCW. **[6]**

b) What are the vital features of online manual? What are the negative side effects of online documentation? **[6]**

Q9) a) What is Information Visualization? Explain visual information seeking rule. **[7]**

b) Explain how pointing devices are applicable in six types of interaction tasks. **[6]**

Q10)a) Explain an importance of hypertext over linear paper document. List important considerations for creating a good hypertext document. **[6]**

b) What is an error? How should an error condition be handled in interface design? **[6]**

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Total No. of Questions : 10] **[Total No. of Pages : 2**

P1237

[3867] - 1162
M.Arch. (Computer Applications)
FUNDAMENTALS OF COMPUTER GRAPHICS
(CA - 103) (2008 Course) (613403)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Answer any Three questions from each section.***
2) ***Answers to the Two sections should be written in separate sheet.***
3) ***Use of logarithmic tables, slide rules and electronic pocket calculator is allowed.***
4) ***Neat diagrams must be drawn wherever necessary.***
5) ***Figures to the right indicates full marks.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) What is computer graphics? Explain its applications education and architectural design. **[6]**

b) What are various methods to draw a circle? Explain Bresenham circle drawing algorithm. **[7]**

Q2) a) Explain methods for character generation. **[6]**

b) Why there are many file formats for digital images? How BMP file format is different from JPEG. **[6]**

Q3) a) Give the transformation matrix if an object in 2D is rotated by 45 degree and then transformed by 8 units in x and y direction. **[6]**

b) How rotation of 3D object is different from rotation of 2D object? Explain with suitable diagram. **[6]**

Q4) Explain Warnock and Painters algorithm for hidden surface. Give suitable example. **[13]**

Q5) What is line clipping? Explain how line clipping algorithm works. **[12]**

P.T.O.

SECTION - II

Q6) What is animation? Explain the principles of animation with suitable example. **[12]**

Q7) Write brief note on : Transparency, Reflection and Shadows. **[12]**

Q8) a) How vector scan and raster scan displays are different? Explain. **[6]**

b) Describe RGB and HSV Color models. **[6]**

Q9) a) Explain the computer graphics applications in animation. **[6]**

b) What are fractals? How fractals can be used in architectural visualization. **[6]**

Q10) What is the need of graphics standards? Explain GKS and PHIGS. **[13]**

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Total No. of Questions : 10] **[Total No. of Pages : 2**

P1238

[3867] - 1163
First Year. M.Arch. (Computer Applications)
THEORY OF DIGITAL ARCHITECTURE - I
(2008 Course) (Sem. - I)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

Question I & 6 are compulsory.

SECTION - I

Q1) Discuss the evolution of architectural theories since the renaissance (the time of Enlightenment) till today. **[13]**

Q2) Write a note on following (Any Two) : **[13]**

a) Toward New Architecture - By Ar. Le Corbusier.

b) Complexities & Contradictions in Architecture - by Robert Venturi.

c) Disjunction in Architecture - by Ar. Bernard Tschumi.

d) Critical Regionalism - Kenneth Frampton.

OR

Q3) Explain the modern philosophies those shaped modern architecture. Discuss the modern architectural principles in terms of architectural program, organization, composition, architectural vocabulary, etc. with appropriate examples. **[13]**

Q4) What does the term 'Avant Garde' means & write a note on 'Radical Avant Garde' movement in the realm of art & architecture. **[12]**

OR

Q5) Discuss the philosophical journey of Ar. Zaha Hadid through her works & why she is considered as one of the first generation architect of digital architecture. **[12]**

P.T.O.

SECTION - II

Q6) Discuss the characteristics and the form of contemporary Indian society and current architectural trends and approaches in India and their appropriateness. (*Form of the society to be discussed in terms of its social, cultural, political, economical and technological terms*) **[13]**

Q7) Discuss the influence of the key concepts of 'System View' on the architectural production process. (*i.e on architectural program, visualization, forms, vocabulary, implementation, construction, etc.*) Also explain how this 'System View' is different than the 'Mechanistic Cartesian View'. **[12]**

OR

Q8) What is the 'Biotech Architecture' and explain its manifesto through appropriate examples. **[12]**

Q9) What is 'Pop Culture' & 'Pop Art' and explain how Archigram responded to this 'Pop Culture' through their architectural work. **[12]**

OR

Q10) Write a note on following (Any Two) : **[12]**

a) Works and philosophy of Ar. Rem Koolhaas.

b) Architectural agenda of Situationist International.

c) Greg Lynn and his approach towards architecture through Digital Medium.

d) The Architecture of Deconstruction.

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Total No. of Questions : 11] **[Total No. of Pages : 2**

P1239

[3867] - 1164
F. Y. M.Arch.
(Architectural Conservation)
STRUCTURAL CONSERVATION MATERIALS AND TECHNIQUES-II
(Semester - II) (Theory)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Section I and Section II have to be solved in separate sheets.***

2) ***Question 7 from section II is compulsory and answer any four questions from section I and any three from the remaining questions in Section II.***

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

SECTION - I

Q1) Discuss the use of Epoxy resins in the process of conservation of built heritage. **[10]**

Q2) List down the techniques of diagnosis of damp in historic structures. **[10]**

Q3) Discuss in detail the cleaning and restoration of traditional wall painting. **[10]**

Q4) What are water repellents. Discuss different conservation practices using water repellents. **[10]**

Q5) Classify the various types of solvents used in conservation. Differentiate between reversible and irreversible processes. **[10]**

Q6) Discuss the conservation of timber using new materials. **[10]**

P.T.O.

SECTION - II

Q7) Write short note (any One) : **[5]**

a) Poultice packs for stone conservation.

b) Ultrasonic pulse velocity.

Q8) List the causes of material decay in historic structures. **[10]**

Q9) Discuss the proactive and reactive measures for earthquake resistance of historic structures. **[10]**

Q10) Define the term defect mapping. List down the procedure of defect mapping of historic structures **[10]**

Q11) Discuss the various types of structural cracks effecting the historic built structures. **[10]**

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Total No. of Questions : 6] **[Total No. of Pages : 2**

P1240 [3867] - 1167

First Year M.Arch. (Environmental Architecture)

ENVIRONMENTAL LAWS AND LEGISLATION

(613207) (New) (Theory) (Sem. - II)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***

SECTION - I

Q1) PIL is playing significant role in the protection of bio - diversity and environment. **[15]**

OR

Explain the significance of Public liability Insurance Act, 1991 in the light of Bhopal Gas Disaster case.

Q2) Explain in detail the principles laid down in Re: Noise Pollution case, 2000 and the effect of the Supreme Court decision on the abetment of Noise pollution. **[15]**

OR

Describe in detail powers and functions of Central and State Pollution Control Board under Water (Prevention and Control of Pollution) Act, 1974.

Q3) Write any two of the Following : **[10]**

a) Need for Environment Protection Act, 1986.

b) E-Waste : new source of pollution.

c) Fundamental duties.

d) NIMBY and NIYBYA.

P.T.O.

SECTION - II

Q4) Discuss the issue of Urban Forests and Hill top - Hill slope, in Pune and critically appraise it. **[10]**

OR

Discuss in detail the role of NGOs in the implementation of environmental standards, rules and regulations.

Q5) Does the outcome of 'Rio + 5' help the word to built consensus for the 'Only One Earth'? **[10]**

OR

Can proper planning and policies like eco-housing, electricity Conservation Building Codes, bio-diversity parks etc possess potential to change the eco-footprint of Pune? Explain.

Q6) Write Short Notes (Any Three) : **[15]**

a) UNEP.

b) Carbon Sequestration.

c) Eco-tourism Policy of Maharashtra.

d) BRT.

e) Sustainable Development and 3 R Principle.

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Total No. of Questions : 7] **[Total No. of Pages : 2**

P1243

[3867] - 1170

M.Arch. (Landscape Arch.)

THEORY OF LANDSCAPE ARCHITECTURE - II

(2008 Syllabus) (Sem. - II) (Credit System)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Q.1 and Q.6 are compulsory.***
2) ***Out of remaining in Section I solve any three and in Section II solve any one.***
3) ***Neat sketches must be drawn wherever necessary.***
4) ***Section I - 40 Marks, Section II - 35 Marks.***

SECTION - I

Q1) Trace the philosophical origins of the design of Central Park and subsequent works of Fredrik Law Olmsted. **[10]**

Q2) Highlight the components of open space development in the City Beautiful movement. **[10]**

Q3) What was the influence of the Modern movement in architecture on Landscape? **[10]**

Q4) Describe the socio - economic and cultural setting that prevailed during the 19^{th} century, which led to the development of new approach in garden planning and design. **[10]**

Q5) Write short note on Energy saving site planning and Landscape Architecture. **[10]**

P.T.O.

SECTION - II

Q6) Short notes on any five of the following (any 5). **[5 Marks each]**

a) The Emerald Neclace Park - Boston.

b) Lovejoy Plaza, Portland.

c) Martha Schwartz.

d) Land Art.

e) Lawrence Halprin.

f) Peter Walker.

Q7) Write short notes on the following : **[10]**

a) Cultural Landscapes.

b) Prospect Refuge theory.

OR

Write a note on the Contribution to the Landscape Design by Geoffrey Jellicoe. **[10]**

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P1244

[3867] - 1171
M.Arch. (Computer Applications)
(CA - 207) : DIGITAL COMMUNICATION AND MULTIMEDIA SYSTEMS
(2008 Course)(613406)

Time : 3 Hours] *[Max. Marks : 75*

Instructions to the candidates:

1) ***Answer any Three questions from each section.***
2) ***Answers to the Two sections should be written in separate sheet.***
3) ***Use of logarithmic tables, slide rules and electronic pocket calculator is allowed.***
4) ***Neat diagrams must be drawn wherever necessary.***
5) ***figures to the right indicates full marks.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) What is Virtual reality? Explain how Virtual reality is an extension of multimedia. **[12]**

Q2) a) How digital audio enhances the presentation? What are the various file formats for digital audio? **[6]**

b) What is MIDI? Explain how it is different from digital audio? **[6]**

Q3) a) What is bitmap? How different is bitmap from vector drawn types of images. **[6]**

b) Explain Color models and their transformations briefly. **[7]**

Q4) What is the need of compression of images? What are the main steps in JPEG image compression? **[12]**

Q5) Write short note on any **Three** of the following : **[12]**

a) Segmentation.
b) Scanner.
c) Synchronous communication.
d) Sound Cards.

P.T.O.

SECTION - II

Q6) What is computer generated animation? Explain various principles of animation. **[12]**

Q7) a) How multimedia is used in architecture design. Give suitable example. **[7]**

b) Explain briefly magnetic storage devices for multimedia applications. **[6]**

Q8) a) What is the importance of multimedia software like flash or Corel draw? Write their features. **[7]**

b) Explain how flash can be used to make animations. **[6]**

Q9) a) What is hypertext? Explain any two application areas of hypertext. **[6]**

b) What is digital video? Explain the use of digital video in developing multimedia application. **[6]**

Q10) Write short note on any **Three** of the following : **[12]**

a) PAL.

b) HDTV.

c) Application of Multimedia in distance education.

d) Multimedia in Entertainment.

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Total No. of Questions : 4] **[Total No. of Pages : 2**

P1245

[3867] - 1181

Second Year M.Arch. (Environmental Architecture)

RENEWABLE ENERGY SYSTEMS AND ENVIRONMENTAL TECHNOLOGIES

(New Course) (Sem. - III) (713201) (Theory)

Time : 2.5 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Draw diagrams wherever necessary.***
2) ***Supplement your answers with graphs and figures wherever necessary.***
3) ***Q.1 and Q.3 are compulsory.***

SECTION - I

Q1) Express in a stepwise manner how will you design and size the solar hot water system for a high - rise apartment, giving detailed calculations and diagrams wherever necessary. **[25]**

The apartment features are as follows:-

a) The apartment is located in a high income residential neighbourhood, consisting of 3 BHK flats, with 3 bathrooms each flat.

b) There are 3 flats per floor and 11 floors in the building.

c) The hot water is to be supplied to the kitchen, washing area and all bathrooms, accordingly assume the hot water requirement for the apartment.

d) Calculate the terrace space available, assuming that each flat is averagely 1350 sq ft.

e) Assume all other necessary details.

Q2) Write short notes on the following (Any two) : **[10]**

a) Nuclear Energy.

b) Waste water treatments any 2 methods.

c) Issues related to Solid Waste Management in India.

d) Solar Power generation through Photovoltaic.

P.T.O.

SECTION - II

Q3) As an Environmental consultant to a Developer for a township project, you have been asked to compile **a conceptual report** on the various Renewable Energy and Alternative Environmental Technologies that can become an integrated part of the township design and planning. **[25]**

The township has the following features :

a) The site area admeasures approx. 3,25,000 sq m and is located on the fringe of a city with hot and dry climatic specification.

b) As per the EIA requirements, 30% of this land is to be maintained as Open area and needs to be developed / kept as Green Areas.

c) The proposed built up is approx. 1,75,000 sq m. The residential units (flats) proposed are approx. 425, with one commercial building and one 3 star hotel, inviting around 2000 guests / employees in the complex every day.

The report should give a clear picture to the Developer as to the various Renewable Energy Technologies and Environmental Technologies that the township can integrate, with conceptual reference to feasibility of these systems. It is expected that simple calculations / estimates / drawings / diagrams become a part of this report.

Q4) Write notes on the following (Any Three) : **[15]**

a) Biofuels.

b) Wind Power generation.

c) Biogas and Biomass.

d) Vermicomposting.

e) Nanotechnology applications in renewables.

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Total No. of Questions : 4] **[Total No. of Pages : 2**

P1246 [3867] - 1182

S.Y. M.Arch. (Environmental Arch.)

EA - 315: ENVIRONMENTAL IMPACT ASSESSMENT

(2008 Pattern) (New Syllabus) (Theory paper) (Sem. - III)

Time : 3 Hours] ***[Max. Marks : 75***

Note : Supplement the answers with sketches, diagrams and case examples.

SECTION - I

Q1) Write briefly on Any Two : **[10 Marks each]**

a) What is the Screening process in an EIA? Explain the various categories used for screening of projects by the Ministry of Government and Forests. Government of India.

b) Write a brief note on how will you go about planning and managing an EIA study.

c) Explain in detail with a conceptual sketch, the Leopold Matrix, mentioning its objective, merits and demerits.

Q2) Write short notes on Any Two : **[7.5 Marks each]**

a) EIA Notification of 2004 and its amendments.

b) Prediction and Assessment of impacts on Air Environment.

c) Stepped Matrices.

d) Description of the 'Affected Environment'.

P.T.O.

SECTION - II

Q3) Write briefly on Any Two : **[15 Marks each]**

a) List and explain briefly the various methodologies used for impact identification in an EIA study. Why are methodologies important and how will you choose the suitable methodology for your study.

b) Write a brief note on the Pollution Control Standards developed by India for Urban Air Quality. Give reference and write briefly about the agency that is mandated to monitor air pollution levels across the cities in India.

c) Explain the process of Evaluation of Alternatives in an EIA? Why is it important and an essential component of any EIA?

Q4) Write short notes on (Any Two) : **[5 Marks each]**

a) Environmental Indicators.

b) Need for an interdisciplinary team for EIA studies.

c) State Expert Appraisal Committee.

d) Category A projects.

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Total No. of Questions :8] **[Total No. of Pages : 2**

P1247

[3867] - 1188

M.Arch. (Landscape Architecture Credit System)

LANDSCAPE CONSERVATION

(Sem. - III) (2008 Syllabus)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Q.1 and Q.6 are compulsory.***
2) ***Out of remaining in Section I solve any three and in Section II solve any one.***
3) ***Neat sketches must be drawn wherever necessary.***
4) ***Section I - 40 Marks, Section II - 35 Marks.***

SECTION - I

Q1) Explain the role of a landscape architect in environmental conservation. **[10]**

Q2) Explain the landscape design approach for heritage zones with examples.**[10]**

Q3) State the need of non-conventional energy resources used in designed landscapes. **[10]**

Q4) Write a note on various methods and policies adopted for soil conservation in India. **[10]**

Q5) Explain the following terms (any two). **[5 marks each]**

a) IUCN.

b) ICOMOS.

c) Conservation of western Ghats.

d) Criteria for Wetland conservation.

P.T.O.

SECTION - II

Q6) Short notes on any of the following (Any 5) : **[5 marks each]**

a) Suggest a landscape design approach to conserve the flora and fauna for Kaas plateau.

b) Bioreserves.

c) National Forest policy in India.

d) Kyoto Protocol.

e) Environmental impact Assessment.

f) Soil conservation.

Q7) Explain an existing institutional framework for designated national parks in India. **[10]**

Q8) State the significance of conservation of forest land in India and instruments helping the same. **[10]**

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Total No. of Questions : 6] **[Total No. of Pages : 2**

P1248

[3867] - 1189
M.Arch. (Landscape Architecture)
(LA - 312) Environmental Legislation and Economics
(New) (Sem. - III)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***

SECTION - I

Q1) State the act/s by virtue of which action can be taken in the following situations. Also state the nature of offence which may be reported in them. **[20]**

a) A private hospital disposes off medical waste in local garbage bins.

b) A factory lets out effluent water in a river.

c) A builder proposes a commercial building on a nallah.

d) In Navaratri the procession causes traffic jams and crosses 90dB after 10pm.

OR

Explain in detail the sources of Air Pollution and the provisions for controlling this pollution with the help of Air Act, 1981 and rules there under.

Q2) With the help of Indian Forest Act, 1927, Forest Conservation Act, 1980 and Forest policies enumerate the changing approach of conservation and protection in India. **[10]**

OR

How is the environmental protection ensured under the Constitution of India?

Q3) Short Notes (Any Two). **[5 Marks Each]**

a) State Pollution Control Board and their powers.

b) Water (Prevention & Control of Pollution) Act, 1974.

c) Costal Management Zone.

d) Bhopal Gas Disaster.

P.T.O.

SECTION - II

Q4) Under what legislation can we protect the environmentally significant areas such as the Kaas Plateau? What are the international initiatives in such issues? **[10]**

OR

The biotic and a-biotic components are major contributors in the economic development of the nation. Explain.

Q5) Explain the changing approach of International Environmental Concepts from Stockholm to Copenhagen. **[10]**

OR

Enumerate the clauses in the Section 22 of the M.R.T.P. Act, 1966 which have provisions related to ecological conservation.

Q6) Short Notes (Any Three) : **[5 Marks Each]**

a) Urban Forests and Landscape Architecture.

b) National Parks.

c) Clean Development Mechanism.

d) World Heritage Site and economics.

e) 73rd and 74th Constitutional amendment.

****

Total No. of Questions : 10] **[Total No. of Pages : 2**

P1249

[3867] - 1196
M.Arch. (Computer Applications)
(CA - 313): INTRODUCTION TO PROGRAMMING
(713401) (2008 Course)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Answer any three questions from each section.***
2) ***Answers to the two sections should be written in separate sheet.***
3) ***Use of logarithmic tables, slide rules and electronic pocket calculator is allowed.***
4) ***Neat diagrams must be drawn wherever necessary.***
5) ***Figures to the right indicates full marks.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Why there is a need of computer programming and different types of software . Explain. **[7]**

b) Explain the data types in C, with examples. **[6]**

Q2) a) Write a note on arithmetic and comparison operators in C. **[6]**

b) Write a C program to find a given number is even or odd. **[6]**

Q3) a) Compare while and do - while loops in C. **[6]**

b) Write a program in C to find a given number is prime or not using for loop. **[6]**

Q4) a) Differentiate between structure and class. **[6]**

b) What is a function? Also write the need of function prototype. **[6]**

Q5) a) Explain the concept of constructors and destructors in C++. **[6]**

b) Explain the following features of object oriented programming. Your explanations should include examples. **[6]**

i) Inheritance.

ii) Polymorphism.

P.T.O.

SECTION - II

Q6) a) Explain different components in Visual Basic. **[6]**

b) Explain various data types used in Visual Basic. Explain how variables and constants are declared in VB. **[7]**

Q7) a) Write a note on how to compile and run a Java program. What types of files are created after each step? **[7]**

b) Write a note on advantages of Java over C++. **[6]**

Q8) a) What is Visual Basic Events? Give some examples of the events. **[6]**

b) Explain the properties and event procedures for command button with example. **[6]**

Q9) Write a C++ program to read parameters for various geometrical objects, and display their areas. (use class / object and inheritance). **[12]**

Q10) Write short notes on any Three. **[12]**

a) Images Box in VB.

b) Properties for Text Box.

c) J2ME.

d) Function Overloading.

e) Compiler.

****

Total No. of Questions : 6] **[Total No. of Pages : 1**

P1250

[3867] - 1197
M.Arch. (Computer Applications) (Sem. - III)
GIS AND REMOTE SENSING
(2008 Course)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***

Q1) Short notes on (any two). **[12]**

a) Typography.

b) GIS component : Hardware and Software.

c) Photographic Film.

Q2) Explain with diagrams the methods of Vector Data analysis? **[13]**

Q3) Explain the elements of Visual image Interpretation? **[13]**

OR

Define Remote Sensing for Earth Surface? Explain the process of Remote Sensing?

Q4) Describe the types of raster data model? Explain the ESRI's GRID data model with diagrams? **[13]**

OR

Describe the Cartographic Symbolization techniques used in GIS?

Q5) Write about the platforms used for Remote Sensing? **[12]**

Q6) Describe the salient features in the history of GIS? **[12]**

OR

Describe the spatial feature selection with attribute query?

****

Total No. of Questions : 6] **[Total No. of Pages : 2**

P941

[3867] - 23
S.Y. B.Arch. (Annual)
HISTORY OF ARCHITECTURE & HUMAN SETTLEMENT - II

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

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections must be written on two separate sheets.***
3) ***Figures to the right indicate full marks.***
4) ***Draw neat sketches wherever necessary.***

SECTION - I

Q1) Explain the following terms with reference to their context (any five). **[25]**

a) Shikhars.
b) Chaumukh Temple.
c) Squinches & Stalactite.
d) Evolution of Gopurams.
e) Early Chalukyan Temples.
f) Mughal Gardens.

Q2) What are the characteristic features of Indo Aryan architecture? Answer with any particular Indo Aryan style. Support your answer with proper sketches. **[10]**

OR

Explain the characteristic features of Islamic Architecture & types of Arches, Domes & methods of dome support.

Q3) Write Short Notes on: (ANY THREE) **[15]**

a) A typical Mosque.
b) Kund in Hindu Architecture.
c) Dravidian School of Architecture.
d) Minarets.
e) Art & Sculpture of Gupta Period.

P.T.O.

SECTION - II

Q4) Explain the following terms with reference to their context (ANY FIVE) **[25]**

a) Temples in Mayan civilization.

b) Angkor Wat.

c) Dome's of Renaissance period.

d) Pagoda.

e) Macchu Picchu.

f) Japanese Gardens.

Q5) Discuss about the characteristic features of Gothic Architecture, with illustrated sketches. **[10]**

OR

Explain the characteristic features of Romanesque Architecture with suitable example.

Q6) Write Short Notes on" (ANY THREE) **[15]**

a) Rustication.

b) Baroque Architecture.

c) Chinese residential structures.

d) Parish Church.

e) Manor House

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P942 **[3867] - 31**

T.Y. B.Arch. (Annual)

ARCHITECTURAL DESIGN - III

(2003 Pattern) (Back log)

Time : 12 Hours] [Enlodge 6 Hours] ***[Max. Marks : 100***

Instructions to the candidates :

1) ***Students must submit the first day sketch as per the requirements at the end of first day and the design as per the requirements at the end of second day along with the first day sketch.***
2) ***First day sketch should given back to the students only 30 min. before the end of second day.***
3) ***Assume suitable data wherever necessary.***

PRIMARY SCHOOL IN LEH, LADAKH

The northern part of India including the Ladakh region experienced a devastating heavy rainfall recently in August 2010. After the natural disaster, the capital town of Leh was almost brought down to earth. The buildings suffered heavy amount of destruction and a condition beyond repairs.

As an aid to these disaster struck people, a Non-Government Organisation plans to develop a primary school in this town almost at 10 km distance from the main town.

Leh is situated in the cold desert region of India, with cold & sunny type of climate. The site selected is flat land abutting 18m wide Leh-Manali Road along the river on southern side and surrounded with 100m tall hills on western and northern side at half a kilometre distance from the site.

The primary school will have classes upto std. IV with total strength not more than 150 and will be conducted from 9.00 a.m. to 3.00 p.m. with lunch break.

Such a school is provided with the usual classrooms and administration area, and a multipurpose hall along with an open ground, a place that can be used by the town people for annual celebrations, weddings, health awareness compaigns and some other social gatherings.

The design of the school should not only give consideration to the design requirements but most importantly the climate of the region and the locally available materials.

DESIGN REQUIREMENTS :

1)	**ADMINISTRATION**	175 sqm. approximately	
	PORCH & ENTRANCE VERANDAH		
	RECEPTION & WAITING for 10 people	20.00	-1 receptonist
	ACCOUNTS OFFICE	20.00	-1 head clerk & 1 clerk
	HEAD MASTER'S CABIN	25.00	- with attached toilet
	SUPERVISOR	20.00	
	STAFF ROOM	40.00	-10-12 male & female staff
	STORE ROOM	10.00	
	STAFF TOILETS	adequate	- separate for male / female and teaching / non-teaching staff
2)	**ACADEMIC AREA :**	825 sqm. approximately	
	STD. I - IV -4 CLASSROOMS	40 sqm.	- 20 pupils each
	NURSERY - 1 CLASSROOM	60 sqm.	- 20 pupils
	PRENURSERY / PLAYGROUP	60 sqm.	- 20 pupils
	DAY-CARE CENTRE / CRECHE	60 sqm.	- 20 pupils (study / play area)
	ANTE-ROOM FOR CRECHE	40 sqm.	- rest-room with pantry, toilet.
	MUSIC ROOM	40 sqm.	- 20 pupils
	ART & CRAFTS	60 sqm.	- 20 pupils
	LIBRARY	50 sqm.	- 20 seating
	MULTIPURPOSE HALL	250 sqm.	- 150 people
	STORE ROOM	30 sqm.	
	PUPIL'S TOILETS	adequate	- separate for girls & boys
3)	**OPEN SPACE**		
	PLAY GROUND	0.2 hectare = 2000 sqm. min.	
	MARGINAL OPEN SPACE	min. 6.0 m wide from all sides	
4)	**PARKING :**		
	BUS	- 1 no.	- school bus
	CARS	- 2 no.	- headmaster / visitors

2-WHEELERS	- 10 no.	- teachers / visitors
BICYCLES	- 50 no.	- pupils / visitors
PLOT AREA		- 4800 sqm.
CARPET AREA	approx.	- 1000 sqm.
+ CIRCULATION	25% of carpet area	- 250 sqm.
TOTAL CARPET AREA	approx.	- 1250 sqm.

DRAWING REQUIREMENTS :

FIRST DAY SKETCH : (single-line sketch)

SITE PLAN	1 : 200 - ground floor plan, parking, road, pathways & landscape.
ALL FLOOR PLANS	1 : 100
1 SECTION	1 : 100

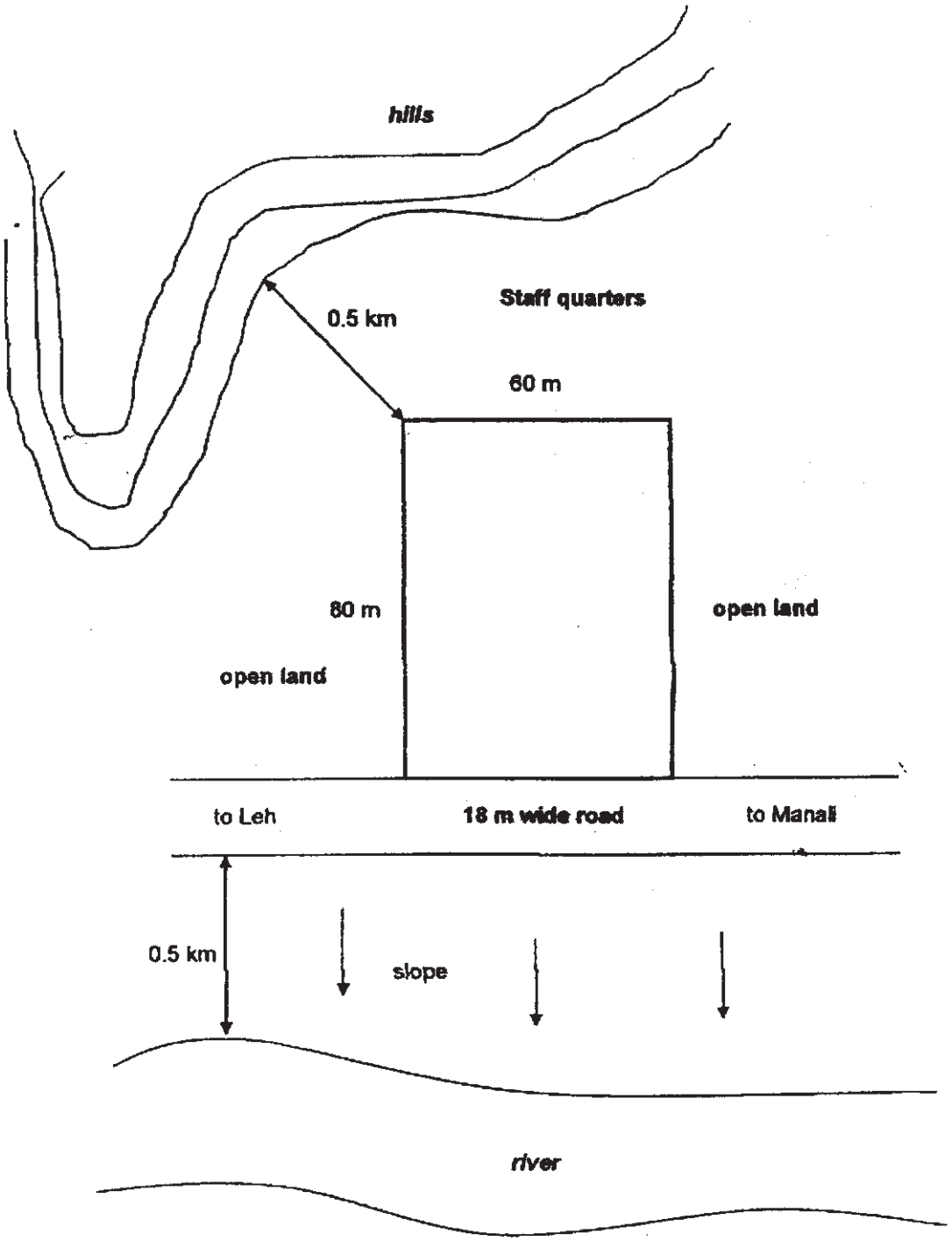
FINAL DESIGN : (minimum)

SITE PLAN	1 : 200
ALL FLOOR PLANS	1 : 100
2 SECTION	1 : 100
1 ELEVATION	1 : 100
DETAIL	1 : 50 (for the construction technology adopted)

and sketches to explain the spaces created in the design.

[NOT TO SCALE]

SITE PLAN



Total No. of Questions :11] **[Total No. of Pages : 1**

P1226

[3867]-1151
F.Y. M. Arch. (Architectural Conservation)
INTRODUCTION TO CONSERVATION - I
(Theory) (2008 Course) (Sem.- I)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Section I and Section II have to be solved in separate sheets.***
2) ***Question 7 from Section II is compulsory and answer any four questions from Section I and any three from the remaining questions in Section II***
3) ***Figures to the right indicate full marks.***

SECTION - I

Q1) Discuss in detail the salient features of Athens charter. **[10]**

Q2) Comment on A.G.K Menon's critical view on Venice Charter. **[10]**

Q3) What are cultural landscapes? Illustrate the term with one example. **[10]**

Q4) State the criteria applicable to the nomination procedure of World heritage site. **[10]**

Q5) Define the term Authenticity. Give an overview of Nara document of authenticity. **[10]**

Q6) Describe in detail the degrees of intervention. **[10]**

SECTION - II

Q7) Write short note (any one) : **[5]**

a) Values and Significance.

b) Typology of heritage.

Q8) Discuss the contribution of any one person to the Conservation movement in India. **[10]**

Q9) Discuss the contribution of John Ruskin to the Conservation movement in the West. **[10]**

Q10) Discuss the Integrated Urban Conservation. Discuss its role in the Indian context. **[10]**

Q11) A historic building in the Urban core of Pune needs to be intervened. Enlist the process of intervention for the building. **[10]**

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Total No. of Questions :9] **[Total No. of Pages :2**

P1227

[3867]-1152
F.Y. M.Arch. (Architectural Conservation)
PLANNING THEORY

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***The section I and II have to be solved in separate booklets.***
2) ***Question 1 section I and question 6 section II are compulsory.***
3) ***Solve any three questions from Q. 2 to 5 and any two questions from Q. 7 to 9.***

SECTION - I

Q1) Write short notes on any five of the following : **[15]**

a) Types of surveys.
b) Urbanization.
c) Sustainable development.
d) Issue of Urban Vs Rural.
e) Role and responsibilities of Urban Planner.
f) Structure plan.

Q2) What is Planning ? Explain how bottom-up approach is better than top-down approach ? **[10]**

Q3) Give a brief overview of town planning practice in India during the post independence period including conservation principles. **[10]**

Q4) Describe in detail about Human settlements in Indus-valley Civilization. **[10]**

Q5) Describe the approaches to plan for nodal and homogeneous regions bringing out clearly the differences between the two approaches. **[10]**

P.T.O.

SECTION - II

Q6) Write explanatory note on any two of the following : **[10]**

a) Air pollution in Urban areas.

b) Sidewalks.

c) Components of housing.

Q7) What are the causes and consequences of Housing shortage in Urban areas? Write your approach to address this issue. **[10]**

Q8) Discuss about transportation problem in Pune. Write down Traffic Management Techniques to improve the situation. **[10]**

Q9)Explain why there is water crisis despite abundance of water resource. **[10]**

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Total No. of Questions :11] **[Total No. of Pages : 2**

P1228

[3867]-1153
F.Y. M. Arch. (Architectural Conservation)
STRUCTURAL CONSERVATION MATERIALS AND TECHNIQUES - I
(Theory) (Sem. - I)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Section I and Section II have to be solved in separate sheets.***
2) ***Question 7 from Section II is compulsory and answer any four questions from Section I and any three from the remaining questions in Section II***
3) ***Figures to the right indicate full marks.***

SECTION - I

Q1) The use of timber is seen in abundance in the historical residential typology of most of the regions of Maharashtra. Give a brief account of causes of decay pertaining to these structures and any two remedial measures adopted for conservation of timber. **[10]**

Q2) What are the different types of corrosion found in Ferrous metals. Elaborate on the extraction process of ferrous metals. **[10]**

Q3) Describe briefly the conservation process adopted to conserve Cuprous metals. **[10]**

Q4) What is hydraulic lime. Describe any two traditional methods of preparation of lime mortar. **[10]**

Q5) Classify the various types of stone available in India based on the geography and physical terrain. **[10]**

Q6) Classify the types of clays and enumerate its uses. Explain any one method to describe the consolidation of clay. **[10]**

P.T.O.

SECTION - II

Q7) Write short note (any one) : **[5]**

a) Effect of rising damp on historical brick structures.

b) Structural cracks in timber.

Q8) What are the factors leading to the failure of arches and domes using traditional materials. **[10]**

Q9) Describe the process of defect mapping used for historic structures. **[10]**

Q10) A significant region of Maharashtra portrays decorative brick work within their historic structures. Give an account of deterioration and defects observed over a period of time. **[10]**

Q11) The Royal palaces in Maharashtra are decorated with plethora of exquisite fenestration. Suggest the remedial measures to repair the defects caused due to weathering and neglect. **[10]**

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Total No. of Questions :10] **[Total No. of Pages :2**

P1229

[3867]-1154
M.Arch (Environmental Architecture)
SOCIO - ECONOMIC ASPECTS OF PLANNING
(Sem- I)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Solve any 4 questions from section I.***
2) ***Question 7 is compulsory and solve any 2 questions from the rest from section II.***
3) ***Draw Figures wherever necessary.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) What is conflict between an development economist and environmentalist ? What kind of policies you would like to suggest to resolve this issue ? **[10]**

Q2) What do you mean by Age-Sex pyramid ? What is its significance in planning? **[10]**

Q3) What are the factors to be taken into consideration to decide the suitability of land for a particular land use ? How does open market process result in selection of best possible land for various purposes of development? **[10]**

Q4) Discuss natural and human factors affecting population densities ? **[10]**

Q5) What are the factors affecting industrial location? Why transportation is said to be major determinant of industrial location? **[10]**

Q6) Why peoples participation is important in planning process? What are direct and indirect methods of peoples' participation in planning? **[10]**

P.T.O.

SECTION - II

Q7) Write short on any three of following : **[15]**

a) Regional planning and economic development.

b) Role of informal sector in solid waste management.

c) Sources of demographic data.

d) High population densities and bio-diversity in urban areas.

Q8) What is the role of Multi-National Companies in deciding industrial locations? How does rising power of Multi-National Companies result in regional imbalances? **[10]**

Q9) What are various ways of social infrastructure management? What is role of government in Public Private Partnerships? **[10]**

Q10) Discuss Burgess model of Human Ecology ? How does social organization in a city affect on spatial locations in terms of internal structure of a city? **[10]**

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Total No. of Questions :6] **[Total No. of Pages : 2**

P1230

[3867]-1155
First Year M. Arch. (Environmental Architecture)
EA - 102 : URBAN AND REGIONAL PLANNING
(New Course)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***Questions numbers 1,2 and 6 are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Your answers will be valid as whole.***

SECTION - I

Q1) State the various levels of planning in India. Where are the origins of the today's urban crisis in India? How will you address the concerns of such Urban crisis with urban and regional planning, and urban design tools? **[15]**

Q2) Choose any five statements from followings and state True or False : **[5]**

a) *City Development Plan* is *proactive planning*.

b) *Development Plan* is *optional* to prepare.

c) *Ian Mcgarh* wrote book titled '*Design with Nature'*.

d) *Egyptians* and *Romans* used *Planning as social and political tool*

e) *Census data in India* is collected after *every 5 years.*

f) *Jane Jacob* wrote book titled '*Image of City'*.

g) Roots of *Urban Renewal* are in *Medieval Rome Planning*.

Q3) Write short answers on any three : **[15]**

a) State types of infrastructure and logic of quality and quantity provision of social infrastructure.

b) Discuss current tools of implementation of infrastructure projects.

c) State the principles of Garden City Movement,and Neighborhood Planning; and its application in Planning and Design.

d) Sustainable Planning principles.

P.T.O.

SECTION - II

Q4) State various theories of spatial organization of planning and applications. Illustrate your thoughts with neat diagrams. **[15]**

OR

What is JNNURM – Jawaharlal Nehru National Urban Renewal Program ? State about its mission, sub–missions, and objectives scope as well as State also about its strategies, duration of the program as well as cities eligible for assistance under this program. State the sectors which are eligible and non eligible for assistance.

Q5) A group of prominent concerned citizens, academicians and activists (hereafter called as 'group') has proposed that a civic led regional planning group to be established in your region. Should we support or oppose the group's creation? Support your stance logically considering public interest. **[15]**

OR

State the heritage of Urban Design. What is the relation of Urban Design with respect to Planning and Architecture? State also the principles of Urban Design. List any three successful Urban Design projects in India.

Q6) Write short answers on <u>any two</u> : **[10]**

a) Rational for Planning.

b) Land Suitability Analysis.

c) Importance of Demographic Analysis.

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Total No. of Questions :4] **[Total No. of Pages : 2**

P1241

[3867]-1168

First Year M.Arch. (Environmental Architecture)

ENVIRONMENTAL MANAGEMENT AND ECOLOGICAL LAND PLANNING

(2008 Pattern) (Theory) (Sem.- II) (613208) (New Course)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks..***

SECTION - I

Q1) Write briefly on any two : **[15 Marks each]**

a) Describe five ways by which 'Significant Aspects' can be addressed in an ISO 14001 Environmental Management System.

b) What are the environmental impacts of the activities and services of an architect for a construction project ? Describe briefly.

c) What is a Management Representative of ISO 14001 ? What are his roles and responsibilities ?

Q2) Write short notes on any three : **[5Marks each]**

a) Environmental policy as per ISO 14001.

b) Greening and Supply Chain.

c) Global Reporting Initiative (GRI-G3).

d) Clean Development Mechanism.

e) EMS Review.

P.T.O

SECTION - II

Q3) Write briefly on any two : **[10Marks each]**

a) What are the biogeographic zones of India? With respect to climate, flora and fauna, explain each one.

b) Write your thoughts and opinions on Impact of human activities on ecosystems, citing at least 4 different examples.

c) Write briefly on the importance of streams,riparian zones and stream restoration.

Q4) Write short notes on any two : **[5Marks each]**

a) River ecology.

b) Components of an ecosystem.

c) Deciduous plants.

d) Homeostasis.

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Total No. of Questions :4] **[Total No. of Pages : 1**

P1242

[3867]-1169
M.Arch. (Landscape Architecture)
LANDSCAPE TECHNOLOGY -II (LA- 206)
(Credit System) (New) (2008 Syllabus) (Sem.- II) (Backlog)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Section 1 carries 40 marks and Section 2 carries 35 marks.***
3) ***Base drawings related to questions are enclosed if any .***
4) ***Drafting equipment and calculators may be used, if required.***
5) ***Assume necessary data if required.***
6) ***Draw diagrams/ sketches wherever necessary.***
7) ***Answer questions of each section in SEPARATE answer books.***

SECTION - I

Q1) Explain the concept of parkways. **[10]**

Q2) Answer any two of the following : **[30]**

a) Explain the problems associated with disturbed landscapes of quarries?

b) Explain landscape engineering measures with their advantages and disadvantages for watershed area with agricultural use.

c) Explain Landscape engineering measures for restoration of landfill areas.

SECTION - II

Q3) Describe landscape engineering measures for canalization and flow control for river. **[15]**

OR

Describe landscape issues related to abandoned industrial areas. **[15]**

Q4) Write brief notes on any two of the following : **[20]**

a) Disturbed landscapes and role of a landscape architect.

b) Environmental impacts of a landfill site.

c) Landscape treatment for improving saline soils.

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Total No. of Questions :7] **[Total No. of Pages : 2**

P1284

[3867] - 1175

S.Y.M.Arch. (Architectural Conservation)

HISTORIC HOUSING AND LANDSCAPE

(Semester - III)

Time : 3 Hours] ***[Max. Marks : 75***

Instructions to the candidates:

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

SECTION - I

Q1) What should be the strategies while conserving the historic landscape? Explain with examples. **[10]**

OR

Explain with examples the effect of natural landscape on shaping pattern of settlement through the history.

Q2) What were the changes which came about in open space design and treatment during colonial period in India? **[10]**

OR

Name any 3 'Riparian civilizations' and describe the landscape design ideology in any one of them.

Q3) Write a note on Mughal gardens in India with sketches and examples. **[10]**

OR

Compare French gardens and English gardens.

Q4) Short notes (Any two): **[10]**

a) Legislative framework in India to protect historic landscapes.
b) Borrowed views.
c) Sacred groves.
d) Native and exotic species.

P.T.O.

SECTION - II

Q5) Enlist with examples important physical characteristics of a typical core city area. **[10]**

OR

Describe with the help of sketches vernacular housing typologies in western Maharashtra; any three.

Q6) Critically analyze re-development approach for core city area development. **[10]**

OR

Enlist evolution process and important decisions in the planning process of core city areas in post-independence period with respect to Pune.

Q7) Short Notes (any three): **[15]**

a) Development of heritage areas and JNNURM.

b) Heritage lists.

c) Morphology of Cantonment areas.

d) Physical infrastructure provisions in core city areas.

e) Commercial zones of inner city areas.

Total No. of Questions : 4] **[Total No. of Pages : 1**

P905

[3867]-11
F.Y. B.Arch.
BUILDING CONSTRUCTION AND MATERIALS - I
(2003 Pattern) (113423)

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

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate books.***
2) ***Answer two questions from section-I and five questions from section-II.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Assume suitable data, if necessary.***

SECTION - I

Q1) A room of 3.5 M × 6M (internal dimension) of 350mm thick brick walls is to provided with double joist timber floor and timber flooring. Draw framing plan (1:20) and joint details of binders and joist to the walls at suitable scale. **[30]**

Q2) Draw plan and elevation of segmental arch for the span of 2.0m in one brickwall and show all the necessary elements of arch scale 1:10. **[30]**

Q3) Solve any three sub questions : **[30]**

a) A typical ledged and batten door (only elevation) showing all elements.

b) 'L' junction in "Flemish bound" for 1½ BK. Wall only plan.

c) Details of joints (any three) in timber.

d) A neat and proportionate sketch of straight flight timber staircase-name the various parts.

SECTION - II

Q4) Attempt any five : **[40]**

a) Substructure and super structure.

b) Use of bamboos in building industries.

c) Types of coping and its importance.

d) Bond in brickwork.

e) Classification of stones.

f) Through stone in stone masonary.

g) Hardware used in timber doors (any four).

☒☒☒☒

Total No. of Questions : 6] **[Total No. of Pages : 2**

P906

[3867]-13
F.Y. B.Arch.
HISTORY OF ARCHITECTURE AND HUMAN SETTLEMENTS - I
(Revised 2003 Pattern) (Yearly Pattern)

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

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate books.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***All questions are compulsory.***

SECTION - I

Q1) Explain the following terms with respect to their context (Attempt any five)**[20]**

a) Dolmen and Menhir.

b) Pylon.

c) Chaitya Halls.

d) Mayan ball game court.

e) Chinese Pagodas.

f) Viharas.

g) Stupa at Sanchi.

Q2) With the help of well annotated sketches explain the evolution of the tomb architecture in ancient Egypt. **[15]**

OR

With the help of well annotated sketches explain the salient features of the Indus Valley Architecture and Town Planning.

Q3) Write short notes on (Attempt any three) : **[15]**

a) Hieroglyphs.

b) The Granary.

c) Stone Henge.

d) Obelisk.

e) Any 2 Vedic Village Pattern.

P.T.O.

SECTION - II

Q4) Explain the following terms with respect to their context (Attempt any five)**[20]**

a) Nave and aisle.

b) Doric order.

c) Ziggurats.

d) Aqueducts.

e) Roman Circus.

f) Any 2 Optical Corrections of Greek Temples.

g) Tholos.

Q5) With the help of plan and elevation explain the characteristic features of a Greek Temple. **[15]**

OR

With the help of relevant sketches explain any one of the Public Buildings of ancient Rome.

Q6) Write short notes on (Attempt any three) : **[15]**

a) Roman Villa.

b) Greek Theatres.

c) Agora.

d) Pendentive.

e) Double Bull Capital.

☒☒☒☒

Total No. of Questions : 7] **[Total No. of Pages : 2**

P907

[3867]-21
S.Y. B.Arch.
BUILDING CONSTRUCTION AND MATERIALS - II
(Annual 2003 Pattern)

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

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate books.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***All questions are compulsory.***
5) ***Assume suitable data if necessary.***

SECTION - I

Q1) A T.W window is to be provided to a residence constructed in 230mm thick brick masonry for a opening size of 1200 × 1200mm. Draw plan, section and elevation to a suitable scale. Draw detail to the scale of 1:2.

a) Fixing of glazed panel.
b) Rail and stile. Sill level : 900mm from finished floor level.

OR

A Recreational Hall of size 7500 × 12000mm is to be provided with a timber truss. The truss is supported on 350mm thick brick masonry. Draw key plan and section to scale 1:50. Draw enlarged detail at the support end and at the ridge. **[20]**

Q2) Draw proportionate and labelled sketches of details of M.S collapsible gate to be provided for an opening of 1800 × 2100mm.

OR

An office is to be provided with a hollow core flush door. The size of opening is 1000 × 2100mm located within one brick thick wall plastered on both sides. Draw plan, elevation and section to the scale of 1:10. Draw detail to the scale of 1:2. **[20]**

Q3) Draw proportionate and labeled sketches of the following (any four) : **[20]**

a) Formwork for chhajja.
b) Cavity wall-detail at sill level.
c) RCC Footing reinforcement.
d) Earth quake resistant measures in load bearing construction.
e) Barbed wire fencing-fixing detail.
f) M.S Window-Hinge detail.

P.T.O.

SECTION - II

Q4) Write short notes on (any four) : **[20]**

a) Temporary structures.
b) Any two types of pointing.
c) Timbering and strutting in loose soil.
d) Forms of structural steel.
e) Any two types of flooring.
f) Foundation for sloping site.

Q5) Explain the following terms (any five) : **[10]**

a) D.P.C.
b) Lime mortar.
c) Water cement ratio.
d) Combined footing.
e) Shear reinforcement.
f) Curing.
g) Purlin.

Q6) Complete the following with the correct option. **[5]**

i) Formwork for slab is kept for a period of ---------- days to achieve the desired strength.
   a) 7 days b) 21 days c) 28 days
ii) Raking out means ---
   a) Clearing out mortar joints before pointing.
   b) Draining rainwater.
   c) Required for strengthening of masonry.
iii) Bituminous Asphalt is used in --
   a) Plastering b) Reinforcement c) Waterproofing
iv) In built up truss, tension members are of
   a) Wood b) Wood & Steel c) FRP
v) Lathe is an individual member in
   a) Collapsible gate b) Rolling shutter c) Sliding gate

Q7) Match the following with the correct option. **[5]**

i)	Slump test	Sheet roofing
ii)	Flashing	Earthquake
iii)	Epicentre	Brickbats
iv)	J bolt	Rainwater removal
v)	Surkhi mortar	Cement.

☒☒☒☒

Total No. of Questions : 8] **[Total No. of Pages : 3**

P908

[3867]-22
S.Y. B.Arch.
THEORY OF STRUCTURES - II
(Yearly Pattern)

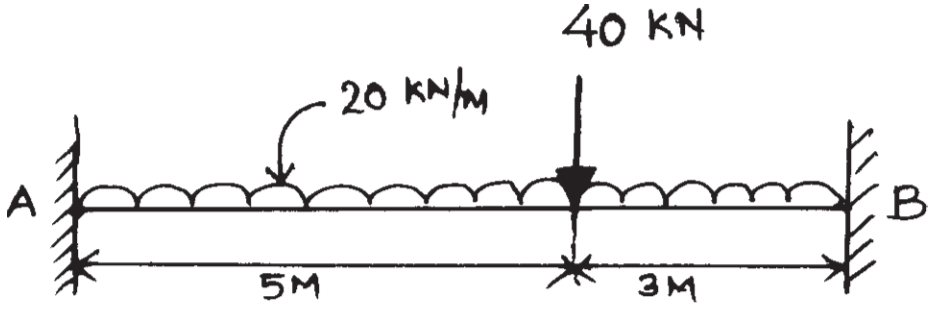
Time : 3 Hours] ***[Max. Marks : 100***

Instructions to the candidates:

1) ***Answer any three questions from each section.***
2) ***Answers to the sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of logarithmic tables, slide rule, Mollier charts, non-programmable electronic calculator and steel table is allowed.***
6) ***Assume suitable data, if necessary.***
7) ***In RCC design use M 20 grade concrete and Fe 415 steel.***

SECTION - I

Q1) Fig-1 show a Fixed Beam AB. Solve the beam and draw SFD and BMD for the same. **[16]**



(FIG. 1)

Q2) a) A simply supported steel beam carries an UDL of 13 kN/m excluding the self weight of beam over its entire span. The effective span of beam is 6.25m. The compression flanges of beam are having adequate lateral support. Design the beam using ISMB. Check the beam for shear and deflection. Permissible stresses in beam are 165 N/mm^2 and 100N/mm^2 in bending and shear respectively. **[10]**

P.T.O.

b) A hollow circular column of external diameter 40mm and internal diameter 34 mm. the length of column is 2.2 m with both ends fixed. Determine the critical load on the column. Use Eular's formula. Take E = 2×10^5 N/mm^2. (Take effective height = 0.65 times the actual height). **[7]**

Q3) A steel stanchion is formed by joining two ISMC placed back to back at a suitable distance. The compressive load on the column is 600 kN and effective height of the column is 3.5 M. Design the columns. Also calculate the maximum spacing between the two section to take maximum compressive load. **[17]**

Q4) Write short note on (any four) : **[16]**

a) Flitched beam.

b) Stiffness factor and distribution factor used in Moment Distribution method.

c) Advantages and disadvantages of riveted and bolted connections.

d) Deshttering period for R.C.C. members.

e) Difference between load bearing structure and R.C.C. framed structure.

SECTION - II

Q5) Write short notes (any four) : **[17]**

a) Arches and types of arches.

b) Different types of cantilever balconies with sketches.

c) Explain "T" and "L" beams.

d) Assumptions made in "Euler's" theory of long columns.

e) Effective height of column based on end conditions.

Q6) Design a RC slab for a school building for the following data : **[17]**

a) Clear class room size 6.10 M × 6.70 M.

b) Width of end support = 350 mm.

c) F.F. load of 1.5 kN/m^2.

d) Live load 3.5 kN/m^2.

Draw reinforcement details.

Q7) a) Write down I.S. requirement for longitudinal and transverse reinforcement of column. **[6]**

b) Design an axially load short column to carry axial load 800 kN. Effective height of column is 4000 mm. Take width of column half of its depth. Draw detailed reinforcement diagram. **[10]**

Q8) Design a rectangular beam of cross section 300 × 550 to carry a U.D.L of 30 kN/m excluding its self weight. Clear span of beam is 7.1 m and it is resting on 300 wide support at ends. Also design the beam for shear if permissible shear stress in beam is 0.6 N/mm^2. Draw reinforcement details. **[16]**

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Total No. of Questions : 4] **[Total No. of Pages : 2**

P909

[3867] - 24
S.Y. B.Arch.
BUILDING SCIENCE & SERVICES - I
(2003 Pattern)

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

Instructions to the candidates:

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

SECTION - I

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

a) What are the functions of valves? Explain with sketches any three types of valves used in water supply system.

b) What are the different materials used for drainage pipes. Mention their advantages and disadvantages. Show their joinery details.

c) Draw and label all the parts of a septic tank. Explain the functions of each part.

Q2) Write short notes of the following (draw sketches wherever necessary) (Any Four) : **[4 × 5 = 20]**

a) Nahani trap.

b) Different types of Pumps used in water supply system.

c) Inspection Chambers.

d) Auto-pneumatic system.

e) Ferrule connection.

f) Types of water taps.

SECTION - II

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

a) Explain "Lumen Method". Explain different factors considered in Lumen Method with the help of its formula.

b) What is Daylight Factor? What are the different components to be considered to calculate DF?

c) What are the different methods of eco-friendly waste disposal system? Explain any two types with necessary sketches.

P.T.O.

Q4) Write short notes of the following (draw sketches wherever necessary)

(Any Four) **[4 × 5 = 20]**

a) Earthing.

b) Types of lamps.

c) Concealed type of wiring system.

d) Calorifier.

e) Rain water harvesting.

f) Miniature Circuit Breaker.

Total No. of Questions : 4] **[Total No. of Pages : 1**

P910

[3867] - 32
T.Y. B.Arch.
BUILDING CONSTRUCTION & MATERIALS - III
(2003 Pattern)

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

Instructions to the candidates:

1) ***Answer 2 questions from Section I and 1 questions from Section II.***
2) ***Answers to the two sections should be written in separate books***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Assume suitable data, if necessary.***

SECTION - I

Q1) Draw plan and section showing reinforcement details of dog-leg staircase of flight width 900mm and floor height of 3000mm to the scale of 1:10. Also draw detail at landing showing railing fixing. **[30]**

Q2) Draw plan and section of a partly glazed and partly panelled T.W. partition with door for office cabin having clear dimensions 3.0m x 3.60m and height 3.0m to the scale 1:10. Draw details of glass and panel fixing to the T.W. frame. Also give joinery details between the framing members. **[30]**

Q3) Explain with neat sketches in detail (any TWO) **[30]**

a) Raft foundation and pile foundations.
b) Modular co-ordination by C.B.R.I.
c) Retaining walls and their types.
d) Long span structures in R.C.C.
e) Bay windows.

SECTION - II

Q4) Write short notes with neat sketches wherever necessary - (Any FIVE) **[40]**

a) Method of polishing new wood work.
b) Guniting.
c) Aluminium cladding.
d) External and internal tanking for basements.
e) Types of glass and their uses.
f) Light weight concrete and Readymix concrete.
g) Alloyed steel and stainless steel.
h) Reinforced brick-work.
i) Types of Lifts.

Total No. of Questions : 8] **[Total No. of Pages : 3**

P911

[3867] - 33
T.Y. B.Arch.
THEORY OF STRUCTURES - III
(Yearly Pattern)

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

Instructions to the candidates:

1) ***Answer any 3 questions from each section.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of logarithimic tables, slide rule, Mollier charts, non-programmable electronic calculator and steel table is allowed.***
6) ***Assume suitable data, if necessary.***
7) ***In RCC design use M 20 grade concrete and Fe 415 steel.***

SECTION - I

Q1) Write short notes on (any three): **[16]**

a) Counter fort retaining wall.

b) Type of foundation to be used in Black cotton soil.

c) One way shear in isolated footing.

d) Different foundation problems on site.

Q2) Design a RCC dog-legged staircase for a school building for the following data: **[16]**

a) Width of flight = 1500 mm

b) Width of landing at both ends of going = 1500 mm

c) Floor to floor height = 3600 mm

d) Riser = 150 mm

e) Tread = 300 mm

The staircase is supported on 300 mm wide beams at outer edge of landings. Draw neat details of reinforcement.

Q3) Design an isolated rectangular and sloping footing for column of size 300 mm x 500 mm carrying factored axial load of 900 KN. Assume safe bearing capacity of soil as 280 KN/m^2. Check the footing for two way shear. Draw the reinforcement details. **[17]**

P.T.O.

Q4) Check the stability of RCC retaining wall as shown in fig.no.1 for following data: **[17]**

a) Density of retained earth = 16 KN/m^3.
b) Angle of repose = 30°
c) Coefficient of friction = 0.5
d) Safe bearing capacity of soil = 300 KN/m^2.

Design the stem of the wall and draw detailed reinforcement diagram.

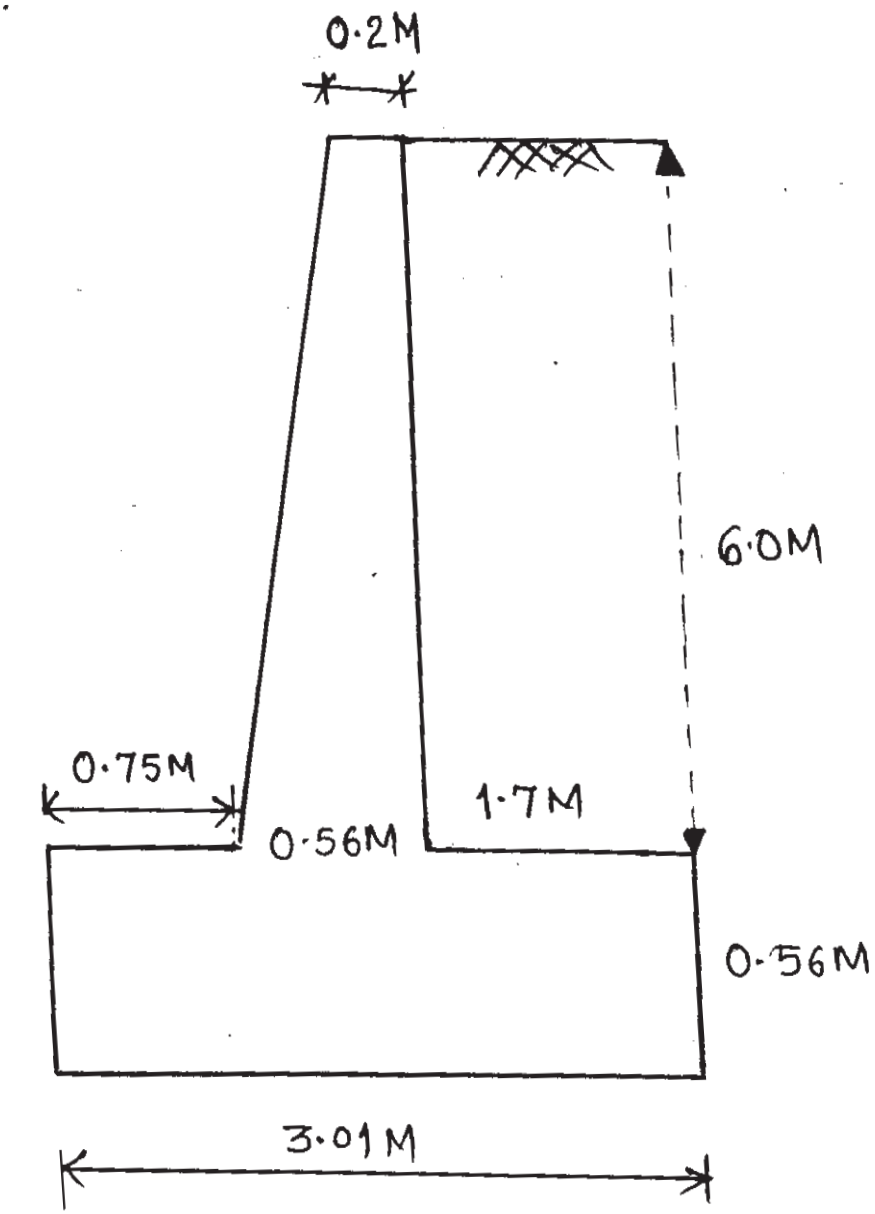


FIG. 1

SECTION - II

Q5) A Stanchion of a factory building consist of 2 ISMC-250 placed back to back. Calculate the load carrying capacity of the stanchion. Also calculate the maximum spacing between two section. The unsupported length of the column is 4m. Both ends of the column are held in position but not restrained against rotations. Design a suitable batten system for the stanchion. **[17]**

Q6) a) Differentiate between R.C.C. and prestressed concrete. **[6]**

b) A prestressed concrete beam of overall size of 300 x 600 mm is simply supported over a span of 8m. The beam carries a UDL of 20 KN/m over entire span inclusive self weight. The beam is prestressed with a prestressing force of 1100 KN. The prestressing tendons are located at the 50 mm below the centroidal axis of beam. Calculate the extreme fibre stresses in the beam at mid span. **[10]**

Q7) a) Design a purlin for a factory building for a roof truss for the following data: **[9]**

i)	Span of Truss	= 16 m
ii)	Spacing of Truss	= 5m c/c
iii)	Slope of the roof	= 25 degrees
iv)	Spacing of Purlins	= 1.65 m c/c
v)	Roof Coverage	= G.I Sheets

Use channel section.

b) Sketch different type of trusses used for factory buildings. **[8]**

Q8) Write short notes on (any Three): **[16]**

a) Flat slab.

b) Plate girder.

c) Folded Plates.

d) Difference between Limit state method (L.S.M) and Working Stress Method(W.S.M).

e) Structural requirement of Swimming pool with sketches.

Total No. of Questions : 8] **[Total No. of Pages : 3**

[3867] - 35

P912

T.Y. B.Arch. (Annual)

QUANTITY SURVEYING AND SPECIFICATION WRITING

(Revised Course 2003 Yearly Pattern) (313440) (Theory)

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 logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***
6) ***Assumed suitable data, if necessary.***

SECTION - I

Q1) Work out the quantities for the following items of work (**Any Five**) for the structure shown in the accompanying diagram (fig.1) Based on the details and data given: **[30]**

a) R.C.C slab for all columns (including M.S reinf)

b) P.C.C For footings.

c) R.C.C column above plinth level and up to bottom of first slab.

d) R.C.C floor beam only.

e) 115mm thk. brick work in super structure only.

f) T.W.windows.

g) R.C.C stair waist slab only.

h) Plaster for verandah only.

i) Nahani trap/ Wash hand basin/ W.C.

j) S.W Pipe line for drainage.

k) Oil paint for Window only.

Q2) Write a short note on: (**Any Two**). **[10]**

a) Abstract sheet.

b) Contingencies.

c) Spot item.

d) Guess work.

P.T.O.

Q3) Rate analyses for the following item based on the material and labour cost as indicated below: (**Any Two**) **[10]**

a) R.C.C beam (1:2:4)

b) 23 cm brick masonry.

c) Sand face cement plaster.

d) P.C.C in foundation (1:4:8)

[**Material** = Cement – Rs. 250/bag, Sand- Rs. 1000/cum, Brick – Rs.4000/brass(1000no.), Neeru – Rs. 80/bag.

Labour = 1. Beam – Rs. 750/m^3,2. Brick work – Rs. 150 / m^3, 3. Sand finished plaster – Rs.75 / m^2, 4. P.C.C(1:4:8) – Rs. 160 / m^3]

Q4) Indent of material for following items. Calculate quantities from Q.1. (**Any Two**) **[10]**

From Q.1 out of Ten quantities work out any two.

SECTION - II

Q5) a) State the objectives of specification and the importance of specification writing for the architectural projects. **[10]**

b) What are the types of specifications, elaborate any two types in detail.

Q6) Write detailed material specifications of --- (**Any Two**) **[10]**

a) Rubble and stones.

b) Surki.

c) Structural steel.

d) Mangalore tiles.

Q7) Write in brief specifications on workmanship - - - (**Any Two**) **[10]**

a) 230 thick B.B.Masonry in superstructure.

b) Cement plaster.

c) Coping.

d) Painting of wood work.

Q8) Specify following materials by trade / manufacturer's name - - - (**Any Ten**)**[10]**

a) T.M.T Steel.

b) Orissa Pan.

c) Stainless steel kitchen sinks.

d) Electric Cables.

e) G.I.Pipes.

f) Modular switches.

g) Laminates for furniture.

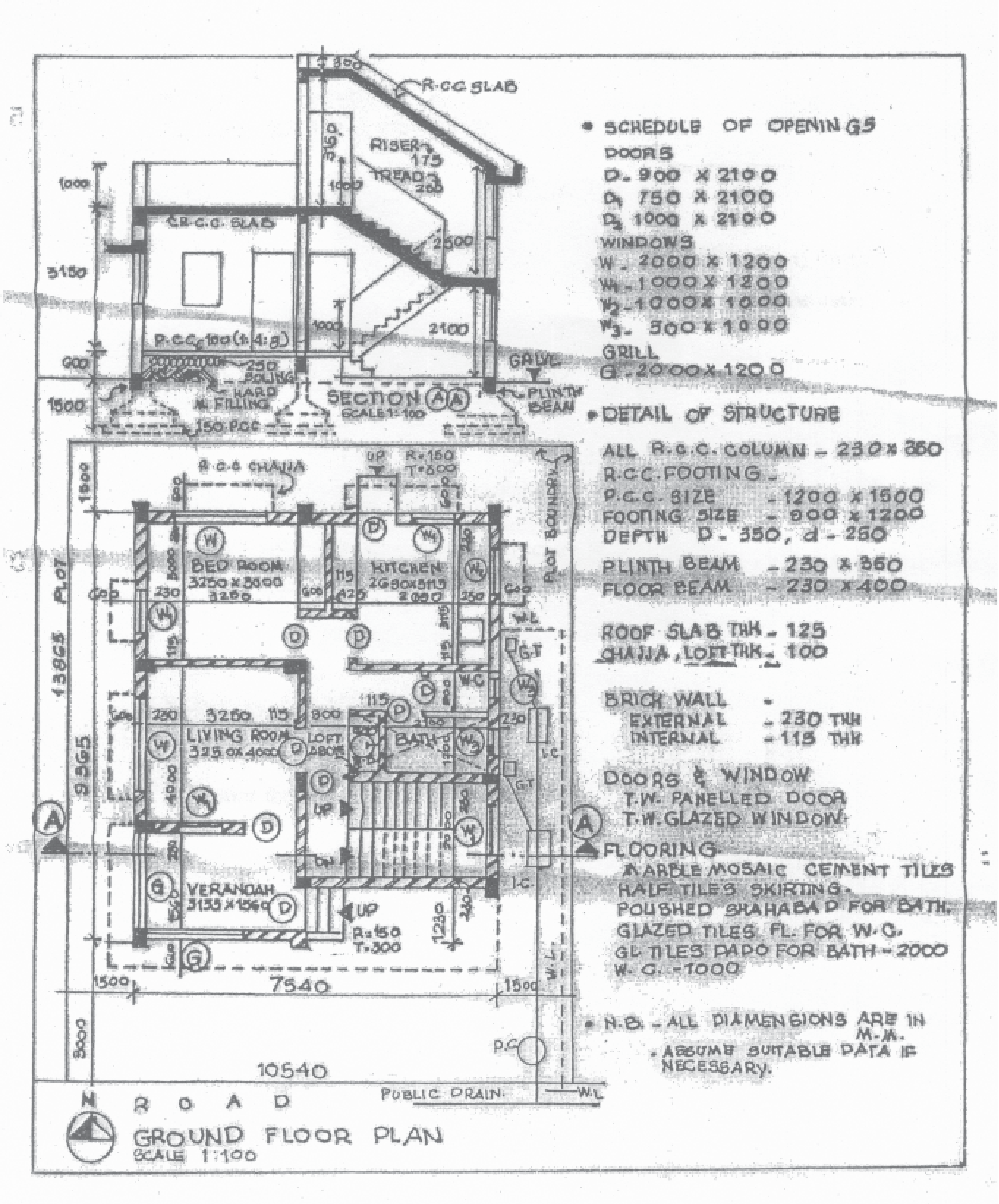
h) Clay roofing tiles.

i) Lifts.

j) Cement paint.

k) Glass films.

l) Vitrified Tiles.


R.C.C SLAB
SECTION (A)(A)
SCALE 1:100
• SCHEDULE OF OPENINGS
DOORS
D - 900 X 2100
D1 750 X 2100
D2 1000 X 2100
WINDOWS
W - 2000 X 1200
W1 - 1000 X 1200
W2 - 1000 X 1000
W3 - 500 X 1000
GRILL
G - 2000 X 1200
• DETAIL OF STRUCTURE
ALL R.C.C. COLUMN - 230 X 350
R.C.C FOOTING -
P.C.C. SIZE - 1200 X 1500
FOOTING SIZE - 900 X 1200
DEPTH D - 350, d - 250
PLINTH BEAM - 230 X 350
FLOOR BEAM - 230 X 400
ROOF SLAB THK - 125
CHAJJA, LOFT THK - 100
BRICK WALL -
EXTERNAL - 230 THK
INTERNAL - 115 THK
DOORS & WINDOW
T.W. PANELLED DOOR
T.W. GLAZED WINDOW
FLOORING
MARBLE MOSAIC CEMENT TILES
HALF TILES SKIRTING.
POLISHED SHAHABAD FOR BATH.
GLAZED TILES FL. FOR W.C.
GL TILES DADO FOR BATH - 2000
W.C. - 1000
• N.B. - ALL DIAMENSIONS ARE IN M.M.
• ASSUME SUITABLE DATA IF NECESSARY.
BED ROOM
KITCHEN
LIVING ROOM
BATH
VERANDAH
ROAD
PUBLIC DRAIN
PLOT BOUNDRY
GROUND FLOOR PLAN
SCALE 1:100

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Total No. of Questions : 7] **[Total No. of Pages : 2**

P913

[3867] - 51
Fifth Year B.Arch.
PROFESSIONAL PRACTICE I & II
(2003 Pattern)

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

Instructions to the candidates:

1) ***Each question carries 20 marks.***
2) ***Solve any three from Section I and any two from Section II.***
3) ***Answers to two sections should be written in separate books.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) As Architect of the project, how would you react to the following:(**Any Four**) **[20]**

a) The tender of lowest Bidder has lot of calculation errors.

b) Client agrees to Contractor's demand for increase in rates.

c) Owner meets with an accident at site.

d) Contractor demands for Mobilisation advance and disagrees to pay any guarantee.

e) The EMD cheque given by the contractor is not honoured by his Bankers.

f) Water and Electricity is not available at site.

Q2) Explain the working of Architect's office as regards: **[20]**

a) Staff structure.

b) Taxation.

c) Records and Reports.

d) Professional communication.

e) Registrations.

Q3) Write short notes on: (**Any Four**) **[20]**

a) Item Rate Tender & Lump Sum Contract.
b) Extra Items and Extra Work.
c) Architectural Competitions.
d) Arbitration.
e) Architect as contract Administrator.

P.T.O.

Q4) a) What is Council of Architecture? What's it's role towards Architectural Education and Profession? **[10]**

b) Explain Indian Institute of Architects and it's role towards Architectural Profession. **[10]**

i) Contract.
ii) Global context.
iii) Relationship with COA.
iv) Representation at Govt. Policy levels.

SECTION - II

Q5) Explain the following terms: (**Any Four**) **[20]**

a) Clerk of work.
b) Liquidated Damages.
c) Umpire.
d) Free hold & Lease hold Tenure.
e) Easement.
f) Market value.

Q6) a) Comment upon the following: (**Any Three**) **[12]**

i) You do not want to pay renewal fees of COA or IIA.
ii) Client points out defects during DLP.
iii) You want to participate in a competition not as per COA guidelines.
iv) The client does not want to pay the Bill of contractor as per your certification.

b) Explain Repairs & Dilapidations and role of Architect towards the same. **[8]**

Q7) Write short notes on : (**Any Four**) **[20]**

a) Comprehensive Services.
b) Professional Ethics.
c) Cost, Price and Value.
d) Tenure.
e) Latent and Patent Defects.

Total No. of Questions : 8] **[Total No. of Pages : 3**

P919

[3867]-3005
T.Y. B.Arch. (ID)
ESTIMATION & COSTING
(Theory) (313484) (2006 Pattern)

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

Instructions to the candidates:

1) ***Answer all questions from each section.***
2) ***Answers 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 logarithmic tables, slide rule, mollier charts, electronic pocket calculator and steam tables is allowed.***
6) ***Assume suitable data, if necessary.***

SECTION - I

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

i) Excavation in soil and S.M. for the column footings

ii) C.C. (1 : $1\frac{1}{2}$: 3) col. footings

iii) C.C. (1 : $1\frac{1}{2}$: 3) chajja's

iv) Polished kota floors (excluding toilet).

v) Niroo plaster (1:4) to walls (living room only).

vi) Ceramic tile dado in toilet (Ht = 2.10m).

vii) B.B. Masonry (1:6) 230 thick in G.floor only.

viii) C.C. T.W. door frames (out of 125 × 65mm).

ix) M.S. Windows and ventilators. **[25]**

b) State the unit of measurement as per I.S.1200 for the following items of work. **[5]**

- M20 floor slabs
- Structural steel in trusses
- P/F Orissa pan
- 30mm C.Flush door shutters
- P.O.P. false ceilings
- 100 High P.Kota skirtings
- PVC overhead W.Tank
- Murum filling in plinth
- Corrugated G.I. Roofings
- A.C. Ridges.

P.T.O.

Q2) a) State the rules for deduction from plaster for D/W/O and jamb addition as per I.S. 1200. **[5]**

b) Work out aggregates, sand and cement required for 20 CUM of P.C.C. (1:4:8) bedding. **[5]**

Q3) Write short notes on <u>any two</u> of the following : **[10]**

a) <u>Uses</u> of detailed estimate.
b) Bill of Quantities.
c) Characteristics of Approximate Estimates.
d) Overhead Expenses.

Q4) Prepare a Bill of Quantities on Abstract Sheet with full description of item of work stating unit of measurement (any two) : **[10]**

a) P/F M.S./Tor Steel Reinforcement.
b) P/F Wash Hand Basin.
c) P/A 12-15mm Niroo Plaster in C.M. (1:4).
d) B.B.Masonry (1:4) 110 (Half brick) thick.

<u>SECTION - II</u>

Q5) Explain various types of specifications and their purpose by giving examples. **[10]**

Q6) Write detailed specifications for <u>any two</u> of the following materials : **[10]**

a) Fine Aggregate/Sand for concrete.
b) First Class Brick.
c) Polished shahabad stone for flooring.
d) Structural steel.

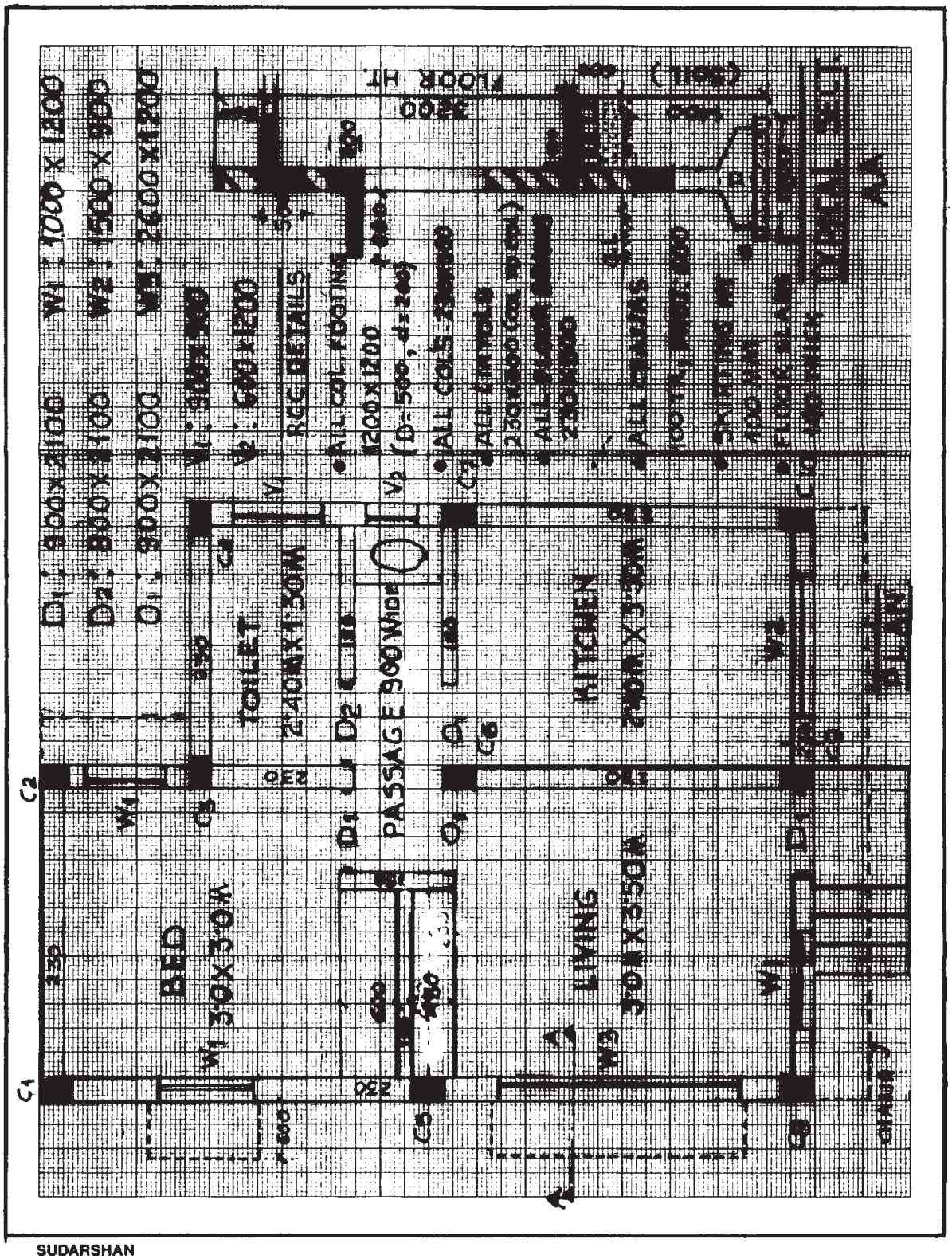
Q7) Write detailed specifications for <u>any two</u> of the following works. **[10]**

a) Brick masonry in super structure.
b) Murum filling in plinth.
c) R.C.C. work in slab (concrete only).
d) Sand faced cement plaster.

Q8) State two brand names/trade names for each of the following materials (any five) : **[10]**

a) Interior Paints.
b) European W.C.Pans.
c) Plywood.
d) Electrical wiring/cables.
e) Ceramic Tiles.
f) Modular kitchen
g) Cement.

DATE


D1 : 800 x 2100
D2 : 800 x 2100
D3 : 900 x 2100
W1 : 1000 x 1200
W2 : 1500 x 900
W3 : 2600 x 1200
V1 : 600 x 1200
V2 : 1200 x 1200
RCC DETAILS
ALL COLUMNS
ALL DOORS
ALL WINDOWS
FLOOR HT
TOILET
2.40 M X 1.50 M
PASSAGE
KITCHEN
2.00 M X 3.00 M
BED
3.00 X 3.50 M
LIVING
3.00 X 3.50 M
C1
C2
C3
C4
C5
C6
C7
C8
SUDARSHAN

Total No. of Questions : 8] **[Total No. of Pages : 4**

P934

[3867]-12
F.Y. B.Arch.
THEORY OF STRUCTURES - I
(Annual/Interior Design) (2003 Pattern) (113424)

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

Instructions to the candidates:

1) ***Answer any three questions from each section.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of electronic calculator is allowed.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Explain the following : **[8]**

i) Moment

ii) Law of polygon of forces

iii) Principle of transmissibility

iv) Lami's theorem

b) For the given coplanar force system shown in Figure 1.b, find the magnitude, direction and point of application of resultant from point A. **[8]**

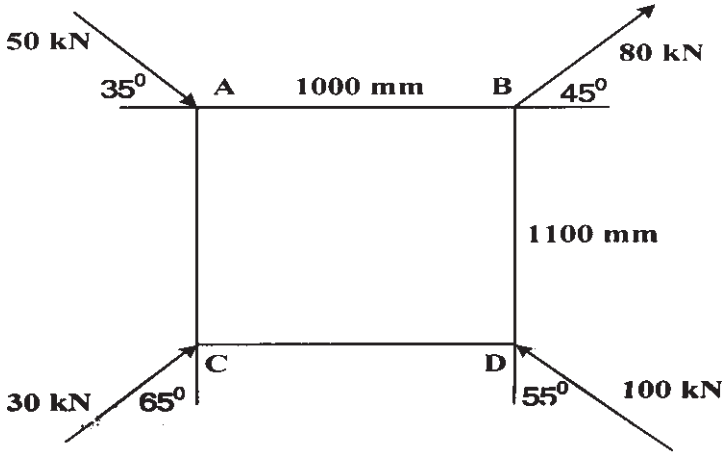


Fig. 1.b

P.T.O.

Q2) a) Explain the reactions developed at a roller and fixed supports. **[4]**

b) Plot the shear force and bending moment diagram for a cantilever beam of span 1 and loaded with an uniformly distributed load w. **[4]**

c) Find the reactions for the beam supported and loaded as shown in Figure 2.c. **[9]**

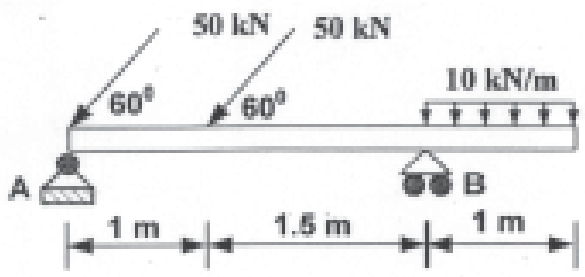


Fig. 2.c

Q3) a) What is the moment of inertia for a rectangle about its centriodal axis and also about its base. **[4]**

b) Draw the SFD and BMD for the beam shown in Fig.3.b. **[8]**

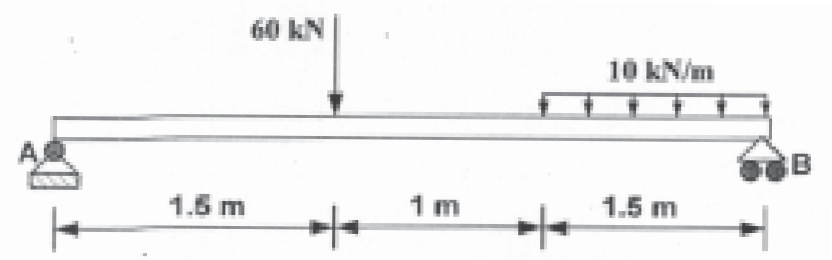


Fig. 3 b

c) What is a redundant truss? Give an example. **[5]**

Q4) a) State Hooke's law and define Modulus of elasticity. Draw the stress and strain diagram up to the yield point for steel and concrete. **[8]**

b) For a rod 1m in length and 15mm diameter, subjected to a pull of 10kN, if $E = 1.12 \times 10^5$ N/mm^2 and $\mu = 0.25$, find linear and lateral strains. **[8]**

SECTION - II

Q5) a) State the assumptions made in the theory of simple bending. **[8]**

b) A simply supported beam is subjected to uniformly distributed load of 15 kN/m. The beam has a rectangular cross-section of (200mm × 250mm). Find the maximum flexural stress in the beam and draw the stress distribution diagram. **[9]**

Q6) a) Find the maximum deflection for the beam shown in Figure 6.a. using double integration method. **[8]**

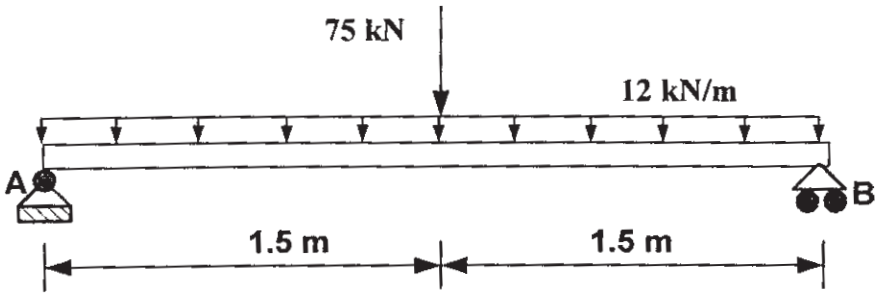


Fig. 6 a

b) Find the forces in the members of the truss shown in Figure 6.b. **[9]**

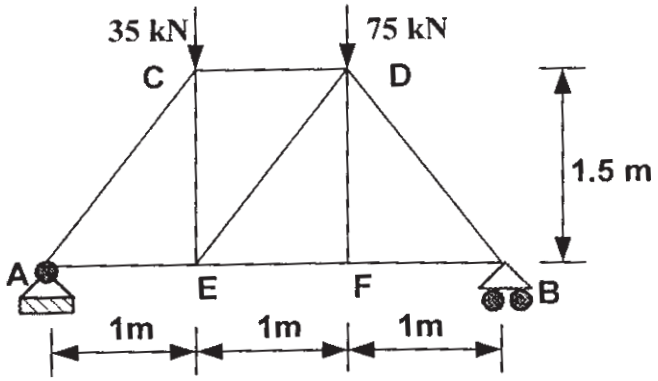


Fig. 6 b

Q7) a) Explain statically determinate and indeterminate structures with examples. **[6]**

b) Obtain the moment of inertia of the symmetrical I section having overall depth 350mm, width 150mm, thickness of flange 12mm, thickness of web 10mm. **[10]**

Q8) a) Explain kern of a section. Determine it for a circular and square cross-section. **[8]**

b) A column is carries a vertical load of 450 kN at point P. Find the stress at all the corners of the column section shown in Figure 8.b. Draw the stress distribution diagram. **[8]**

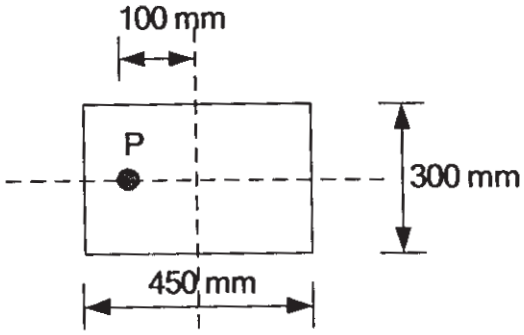


Fig. 8 b

Total No. of Questions : 8] **[Total No. of Pages : 4**

P935

[3867]-1001
F.Y. B.Arch. (Interior Design)
THEORY OF STRUCTURES - I
(2003 Pattern) (Annual)

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

Instructions to the candidates:

1) ***Answer any three questions from each section.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of electronic calculator is allowed.***
6) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Explain the following : **[8]**

i) Moment

ii) Law of polygon of forces

iii) Principle of transmissibility

iv) Lami's theorem

b) For the given coplanar force system shown in Figure 1.b, find the magnitude, direction and point of application of resultant from point A. **[8]**

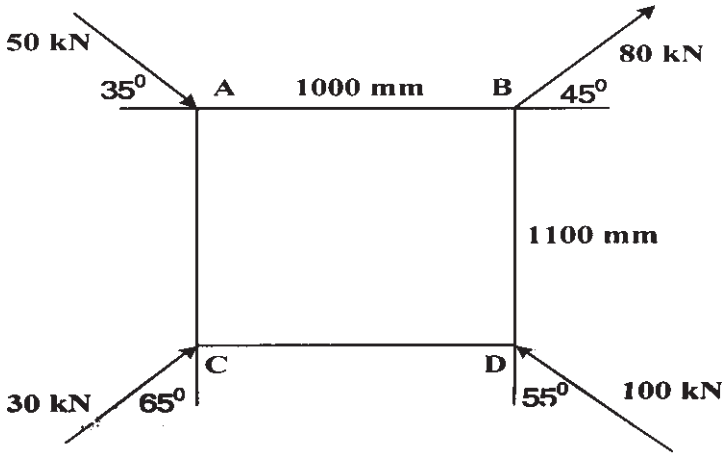


Fig. 1.b

P.T.O.

Q2) a) Explain the reactions developed at a roller and fixed supports. **[4]**

b) Plot the shear force and bending moment diagram for a cantilever beam of span 1 and loaded with an uniformly distributed load w. **[4]**

c) Find the reactions for the beam supported and loaded as shown in Figure 2.c. **[9]**

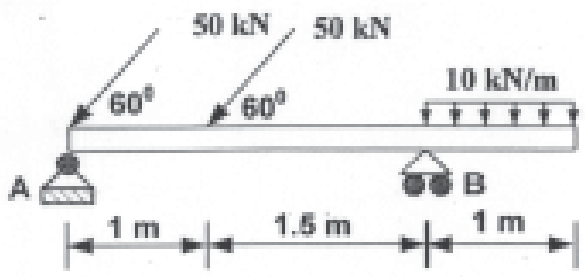


Fig. 2.c

Q3) a) What is the moment of inertia for a rectangle about its centriodal axis and also about its base. **[4]**

b) Draw the SFD and BMD for the beam shown in Fig.3.b. **[8]**

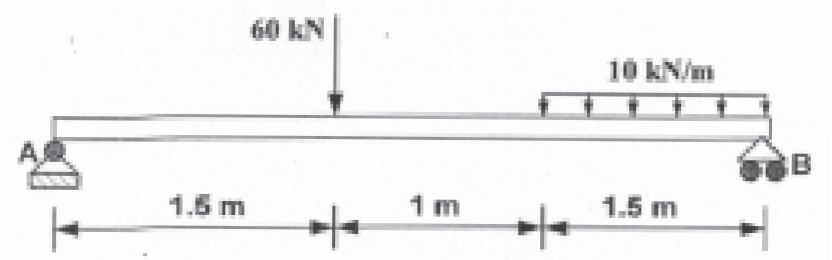


Fig. 3 b

c) What is a redundant truss? Give an example. **[5]**

Q4) a) State Hooke's law and define Modulus of elasticity. Draw the stress and strain diagram up to the yield point for steel and concrete. **[8]**

b) For a rod 1m in length and 15mm diameter, subjected to a pull of 10kN, if $E = 1.12 \times 10^5$ N/mm^2 and $\mu = 0.25$, find linear and lateral strains. **[8]**

SECTION - II

Q5) a) State the assumptions made in the theory of simple bending. **[8]**

b) A simply supported beam is subjected to uniformly distributed load of 15 kN/m. The beam has a rectangular cross-section of (200mm × 250mm). Find the maximum flexural stress in the beam and draw the stress distribution diagram. **[9]**

Q6) a) Find the maximum deflection for the beam shown in Figure 6.a. using double integration method. **[8]**

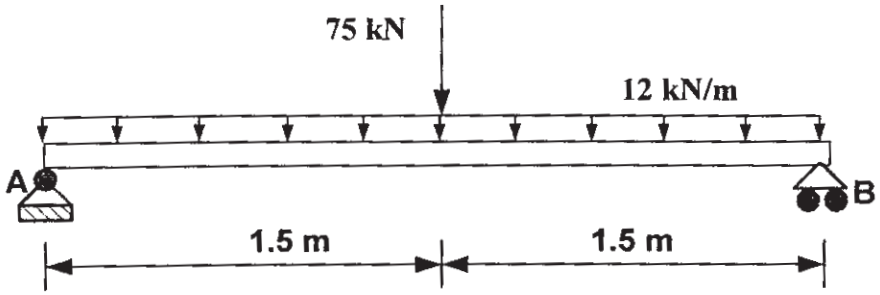


Fig. 6 a

b) Find the forces in the members of the truss shown in Figure 6.b. **[9]**

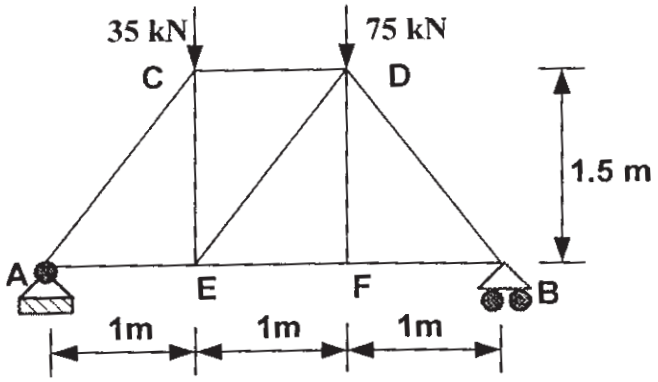


Fig. 6 b

Q7) a) Explain statically determinate and indeterminate structures with examples. **[6]**

b) Obtain the moment of inertia of the symmetrical I section having overall depth 350mm, width 150mm, thickness of flange 12mm, thickness of web 10mm. **[10]**

Q8) a) Explain kern of a section. Determine it for a circular and square cross-section. **[8]**

b) A column is carries a vertical load of 450 kN at point P. Find the stress at all the corners of the column section shown in Figure 8.b. Draw the stress distribution diagram. **[8]**

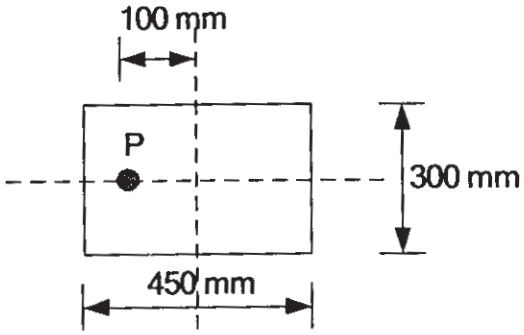


Fig. 8 b

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Total No. of Questions : 10] **[Total No. of Pages : 2**

P936

[3867] - 2002

S.Y.B.Arch (ID)

History of Architecture, Art Culture and Interiors Design-II

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

Instructions to the candidates:

1) ***Question 1 from section I and Question 6 from Section II are compulsory.***
2) ***Solve any three of the remaining in Section I and Section II respectively.***
3) ***Answers to be written in separate note books for each section.***
4) ***Figures to the right of the questions indicate full marks.***

SECTION-I

Q1) Write short notes with appropriate sketches (Any four). **[20]**

a) Chaumukh temple

b) Urushringas

c) Gopurum

d) Rathas

e) Squinches

f) Minars and minarets

g) Interiors of Dome of Rock.

Q2) Describe the development of tombs built in Delhi Sultanate period. **[10]**

Q3) Discuss the salient features of Indo-Aryan architecture. Support your answer with a suitable example. **[10]**

Q4) Discuss the various types of domes during the Indo Islamic Architecture. **[10]**

Q5) Describe salient features of Early Chalukyan temples. **[10]**

P.T.O.

SECTION-II

Q6) Write short notes with appropriate sketches. (Any four) **[20]**

a) Window tracery

b) Moat and Bailey

c) Parish church

d) Angor vat

e) Campanile Pisa

f) Forbidden city

g) Frescoes and mosaics

Q7) Discuss the constructional features implemented during Gothic architecture. **[10]**

Q8) Discuss the Palladian villa with a suitable example. **[10]**

Q9) Discuss the salient features of Baroque and Rocco art and architecture. **[10]**

Q10) Describe how Roman architecture was reinvented during Romanesque architecture. **[10]**

Total No. of Questions : 5] **[Total No. of Pages : 2**

P937

[3867] - 2003
S.Y.B.Arch. (Interior Design)
Construction, Services and Materials-II
(Theory)

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

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the three 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) ***Assume suitable data, if necessary.***
6) ***Q3, Q4, Q5 are compulsory. Solve any one from Q1 and Q2.***

SECTION-I

Q1) A Composite truss roof is to be provided for a workshop 6M X 9M with **AC Sheet** roofing with 450MM overhang on both side, clear internal height is 3.5M and external walls are 350MM thk in brick, Strengthened with 450MM X450MM brick piers at 3M c/c draw **key plan** (scale 1:50) and elevation of truss (1:20) **[15]**

Draw detailed **Sectional Elevation at eaves** using suitable scale. **[5]**

Draw detail at ridge using suitable scale. **[5]**

OR

Q2) An entertainment hall of size 6000x 9000 is to be provided with Partly glazed and Partly Paneled Entrance door of size 1.2mx2.1m. Draw Plan, Elevation and Section to explain the construction to 1:20 scale. **[15]**

Draw the joinery between stile and middle rail. **[5]**

Draw enlarged detail of glazing fixing and Panel fixing to 1:5 scale. **[5]**

P.T.O.

Q3) Explain with the help of sketches the following (Any 5) **[25]**

a) Draw isometric view of timbering and strutting for loose soil condition.

b) Section of chajja with reinforcement

c) Foundation on sloping sites

d) Groined Vault

e) Parquet flooring

f) Chain link fencing

g) Any two types of hollow concrete blocks.

SECTION-II

Q4) Write short notes: (Any 5) **[25]**

a) Pointing techniques.

b) Defects in plaster

c) Method of fixing AC sheet roofing.

d) Various types of rigid DPC materials.

e) Use of course aggregate in construction.

f) Neeru finish cement plaster.

g) Bulking of sand and its significance in cement mortar.

SECTION-III

Q5) Answer the following: (Any 5) **[25]**

a) Draw typical section through Over head tank water tank.

b) Explain difference between noise and sound.

c) Explain safety devices used in electrical wiring.

d) Draw detail sketches of mixer unit and half turn cock.

e) Explain various types of materials used for acoustical treatments.

f) State Different types of hot water distribution systems.

g) Explain methods of controlling sound.

Total No. of Questions : 5] **[Total No. of Pages : 2**

P938

[3867] - 3002
T.Y.B.Arch. (Interior Design)
Construction, Services and Materials-III
(Annual Pattern)

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

Instructions to the candidates:

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

SECTION-I

Q1) Draw a plan and section of a cantilevered R C C balcony measuring 4 Mts in width projecting 1.5 Mts, to the scale of 1:20. Give the placement of reinforcement showing all relevant details. **[20]**

OR

Design a sliding-folding door to the lobby opening into the courtyard of an office building. The opening in the wall for the door measures 3000 x 2100 mm. Draw plan, elevation, section to the scale of 1:10 and details to a suitable scale.

Q2) Draw a plan and section of a North Light roof truss for a factory shed measuring 30 Mts $\times$ 45 Mts to scale 1:20. Give details at ridge as well as eaves & gutter. **[20]**

OR

Draw plan, elevation & sections of a wardrobe with dressing unit for a master bed room of a Bungalow belonging to an officer of higher income group. Give sufficient details of joinery and materials.

P.T.O.

Q3) Write short notes with appropriate sketches (Any two) **[10]**

a) Advantages of false ceiling.

b) Any two types of RCC stairs.

c) Any two types of Elevators.

SECTION-II

Q4) Write short notes with appropriate sketches: (Any five) **[25]**

a) Stainless steel and its use in building industry.

b) Decorative Brickwork used in buildings.

c) Any two roofing techniques developed by CBRI.

d) Painting on wood.

e) Shallow foundations.

f) Waterproofing to terrace.

g) Guniting.

SECTION-III

Q5) Write short notes with appropriate sketches: (Any 5) **[25]**

a) Wet & dry risers.

b) Passive cooling strategies.

c) Air conditioning as an Environmental issue.

d) Any two types of fire fighting equipments.

e) Smoke detectors & sprinkler system.

f) Escape in case of fire & its regulations.

g) Structural elements & their fire resistance.

P939

[3867] - 3003
T.Y. B.Arch. (ID)
ARCHITECTURAL AND INTERIOR DESIGN III
(2003 Pattern)

Time : 12 Hours [Enlodge 6 hours] ***[Max. Marks :100***

Instructions to the candidates:

1) ***The design will be valued as a whole.***
2) ***Assume suitable data if necessary.***
3) ***The candidate will submit the single line drawings of the site layout, floor plans and sections at 1:200 scale at the end of the first day. These sketches shall not be returned to the candidate, therefore due record of the same should be kept for reference on the subsequent day. Candidates should refrain from making serious deviations from the sketches submitted on the first day.***
4) ***The drawings should be self-explanatory with structural clarity in the drawings.***
5) ***Orientation of the site should not be changed while preparing the floor plans.***

Visitor Centre

State Department of Archaeology wishes to construct a visitor centre near one of their protected monuments. The design is expected to be a very contemporary expression without being too overpowering.

Design Brief

Indoor Areas

1	Entrance Lobby (Waiting Hall) with Reception Desk	50 Sqm
2	Administration Office	30 Sqm
3	Exhibition Space	250 Sqm
4	Staff Room with Toilet	25 Sqm
5	Audiovisual room with Projection Facility	75 Sqm
6	HVAC Room, Electrical Room and Store: 15 Sqm Each	45 Sqm
7	Library	100 Sqm
8	Common Toilets for visitors Male: 3 WC's, 3 Urinals, 3 WHB Female : 3 WC's, 3 WHB	Adequate
9	Canteen	150 Sqm
10	Kitchen with store	50 Sqm

Other Areas

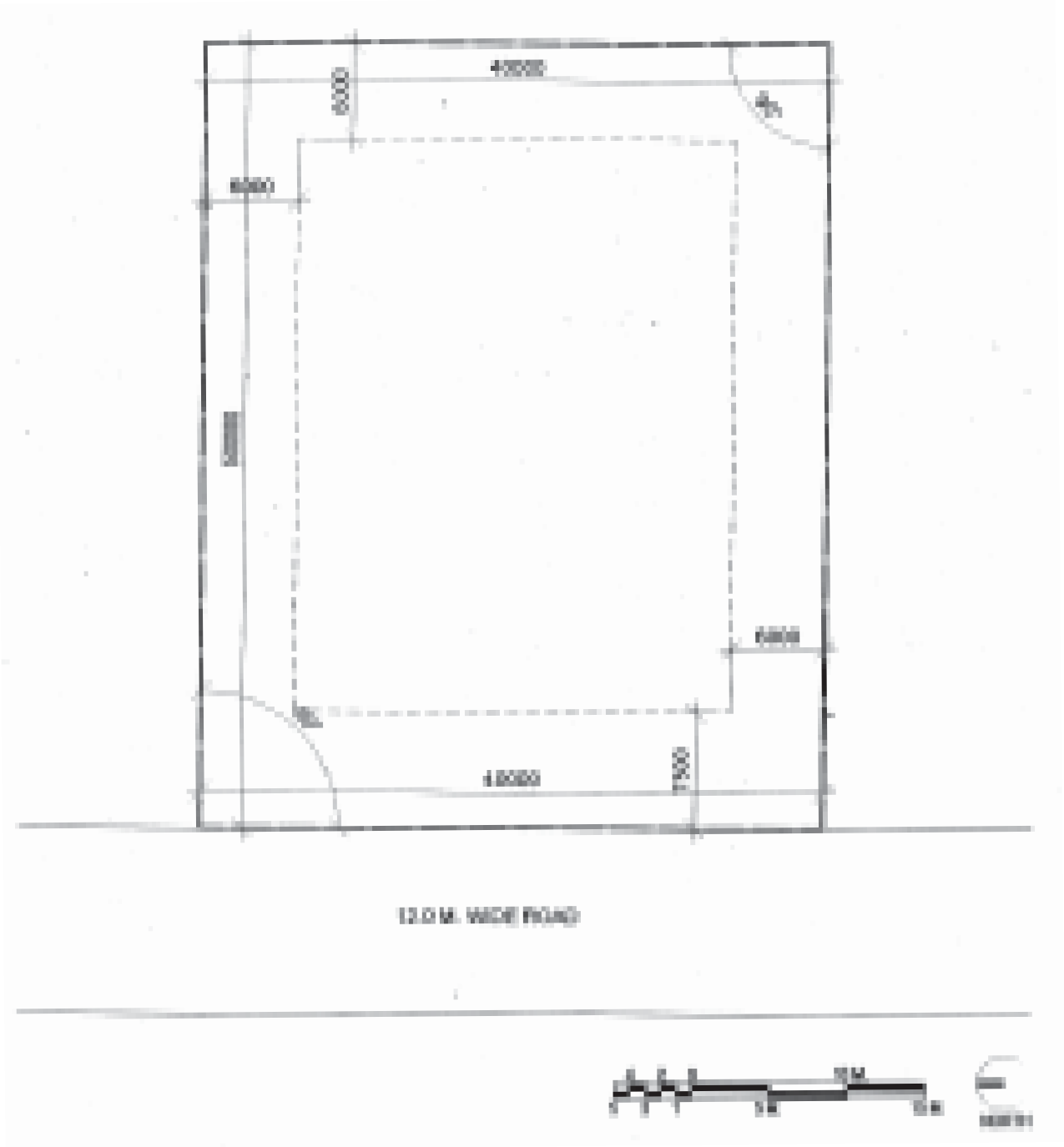
1	Security Cabin	Adequate
2	Parking for 10 Cars, 20 two wheelers	Adequate

Site Parameters

1. Setback from roadside 7.5 m
2. Set back from other 3 sides 6.0 m
3. Max. Ground Coverage 1/3 rd of Plot Area
4. Permissible FSI 1.00
5. Plot Area 2000 Sqm
6. No Structure should be more than G+ 1 Floors in Height

Drawing Requirements

1. Site Plan 1:200
2. All Floor plans 1:100
3. Two Sections Minimum (Longitudinal and cross) 1:100
4. Two Elevations Minimum 1:100
5. Perspective view of the Campus.



P940

[3867]-4001
Fourth Year B.Arch. (ID)
INTERIOR DESIGN
(2006 Pattern)

Time : 18 Hours] ***[Max. Marks : 100***

Instructions to the candidates:

1) ***The design solution will be evaluated as a whole.***
2) ***Assume suitable data wherever necessary.***
3) ***The candidates shall submit single line plans of the entire scheme with 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 deviations 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.***

FOODMALL ON A HIGHWAY

Mumbai-Aurangabad is a busy highway due to many prominent cities and towns, enroute. Nagar is one such town.,

The owner has farm land measuring 80M × 125M, longer side facing highway on south. He wishes to develop a food mall and shopping zone (25 small kiosks of 5 sqm each) with typical facilities for marriage lawn.

The site does not have water supply or drainage connections.

THE PROGRAM

1.	Ent zone. Adequate	100 sm
2.	Veg/Udipi restaurant	150 sm
3.	Veg/non veg restaurant	150 sm
4.	Adequate kitchen and store	100 sm
5.	Open counter food mall	200 sm
6.	Garden restaurant for 75	200 sm
7.	Marriage lawn for 1000 people	1000 sm
8.	Adequate Public toilets	100 sm
9.	Staff accommodation for 10 nos.	100 sm
10.	Parking, regular	30 nos.
11.	Parking, marriage	100 nos.
	TOTAL AREA	**2100 sm**

P.T.O.

Drawing requirements :

First day submission –

1.	Concept of design		10 marks
2.	Single line layout plans showing site, buildings, parking, driveways, pathways, landscaping	1:200	
3.	Single line plans at all levels	1:100	

Final submission –

1.	Layout plans showing site, buildings, parking, driveways, pathways, landscaping, etc	1:200	15 marks
2.	Plans at all levels with complete interior layout	1:100	25 marks
3.	Minimum two sections to explain the scheme	1:100	20 marks
4.	Minimum two elevations	1:100	15 marks
5.	A sketch perspective specifically highlighting the interior theme.		15 marks

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P943

[3867] - 41
FourthYear B.Arch.
ARCHITECTURAL DESIGN - IV
(2003 Pattern)

Time : 18 Hours *[Max. Marks :100*

Instructions to the candidates:

1) ***Your design solution will be evaluated as a whole.***
2) ***Assume suitable data if necessary.***
3) ***The candidates 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 and should have clarity in all the plans and sections.***

Institute of Fashion Technology

A private management has proposed to build an Institute of Fashion Technology in Pune. The institute will conduct a 4-year degree course with an intake of 40 students per year.

The Institute will house fully equipped lecture rooms, design studios and laboratories, resource centre and activity centres. The education structure will emphasise on hands-on experience through practical set-ups and state-of-the-art technology. The Resource Centre will have rich collections of print and non-print materials including audio-visual materials, textiles, costumes, fashion accessories and related items.

The selected plot for the institute is flat and rectangular in shape having 50 m. North - South and 80 m. East - West dimensions. The site is situated in a residential area. It has a15 m. wide road on one side and a playground on the western side.

The proposed institute has to be designed with the following requirements:

Space Requirements: (Figures to the right indicate carpet area in sq.mts.)

- Adequate areas for passages, lobbies, porch, stairs, services should be provided wherever necessary.
- Adequate number of toilets to be provided as per the requirement
- Circulation areas are over and above the given areas.

1)	Administration		
	i)	Entrance hall and waiting	30.00
	ii)	Reception	15.00
	iii)	Principal's cabin with attached toilet, area for secretary and visitors waiting	
	iv)	Administration Office for 6 clerks and others	60.00
	v)	Staff Room with attached toilet	45.00
	vi)	Professor's Cabins (4 nos.), 15.00 sq.mtr.each	60.00
	Adequate toilets to be provided		
2)	**Academic Area**		
	i)	Studios (4 nos.), 120 sq.mtr.each	480.00
	ii)	Lecture Halls (4 nos.), 60 sq.mtr.each	240.00
	iii)	Fashion Design Lab.	150.00
	iv)	Garment Manufacturing Lab.	150.00
	v)	Display / Exhibition Area	105.00
	vi)	Conference Rm.	90.00
	vii)	Computer Lab.	120.00
	viii)	Store	30.00
	Adequate toilets to be provided		
3)Library			
	i)	Baggage Counter	15.00
	ii)	Display of new Arrivals	15.00
	iii)	Stack Area	45.00
	iv)	Reading Section	90.00
	v)	Librarian's Area	9.00
	vi)	Store	9.00
	vii)	Space for Photocopying	12.00
4)	**Resource Centre**		
	i)	Resource Centre	90.00
	ii)	Resource Officer's Area	9.00
	iii)	Store	9.00
5)	**Other Areas**		
	i)	Auditorium for 200 people	300.00
	ii)	Canteen (includes seating, kitchen, pantry, store, wash etc.)	105.00
	iii)	Ladies' Common rm. with attached toilet	45.00
	iv)	Gents' Common rm. with attached toilet	45.00
	v)	Indoor Games Rm.	30.00
	Adequate toilets to be provided		

6) Parking and Security

Cars	10 nos.
Two wheelers	120 nos.
Bus	1 no.
Security cabin	1 no.

Adequate Driveway should be provided for the same

Design Parameters

i) Minimum side margins from all sides is 6.00 m.
ii) Maximum ground coverage is 50% of the plot area.
iii) Ample natural light and natural ventilation provisions are a must.
iv) Outside area should be provided with interesting landscape and an amphitheatre to be used as interaction area for students.

Drawings Required

First Day:

i)	Single line layout plans showing site, buildings, parking driveways, pathways, landscaping etc.	1:200
ii)	Single line plans at all levels	1:200

Final Day:

i)	Layout plan showing site, buildings parking, driveways, pathways, landscaping, services etc.	1:200
ii)	Plans at all levels should be shown with internal layout	1:200
iii)	Minimum two sections to explain the scheme	1:200
iv)	Minimum two elevations	1:200
v)	A sketch perspective or bird's eye view	

RESIDENTIAL AREA
80 M
SITE PROPOSED FOR
INSTITUTE OF FASHION
TECHNOLOGY
RESIDENTIAL
AREA
50 M
PLAYGROUND
15 M WIDE ROAD
NORTH
[NOT TO SCALE]
SITE PLAN

Total No. of Questions : 2] **[Total No. of Pages : 3**

P944

[3867]-2004
S.Y. B.Arch. (ID)
ARCHITECTURAL GRAPHICS, SKILLS, MANUAL AND COMPUTERS -II
(213485)

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

Instructions to the candidates:

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Figures to the right indicate full marks.***
3) ***Assume suitable data, if necessary.***
4) ***All questions are compulsory.***

Q1) Draw perspective view

a) Shown in Fig No.1 is a living. Draw the view as per the picture plane indicated using technical method to the scale 1:20. **[30]**

b) Render in any medium. **[10]**

c) Draw a presentable drg. with all interior elements. **[20]**

Total Marking Scheme a + b + c **[60]**

Given :

1. Station Point - 6000
2. Eye LVL - 1800
3. Scale - 1:20
4. Window W - 1500 × 1200
   O - 1800 × 2100
5. Seating LVL - 300

Q2) Draw Isometric view of object

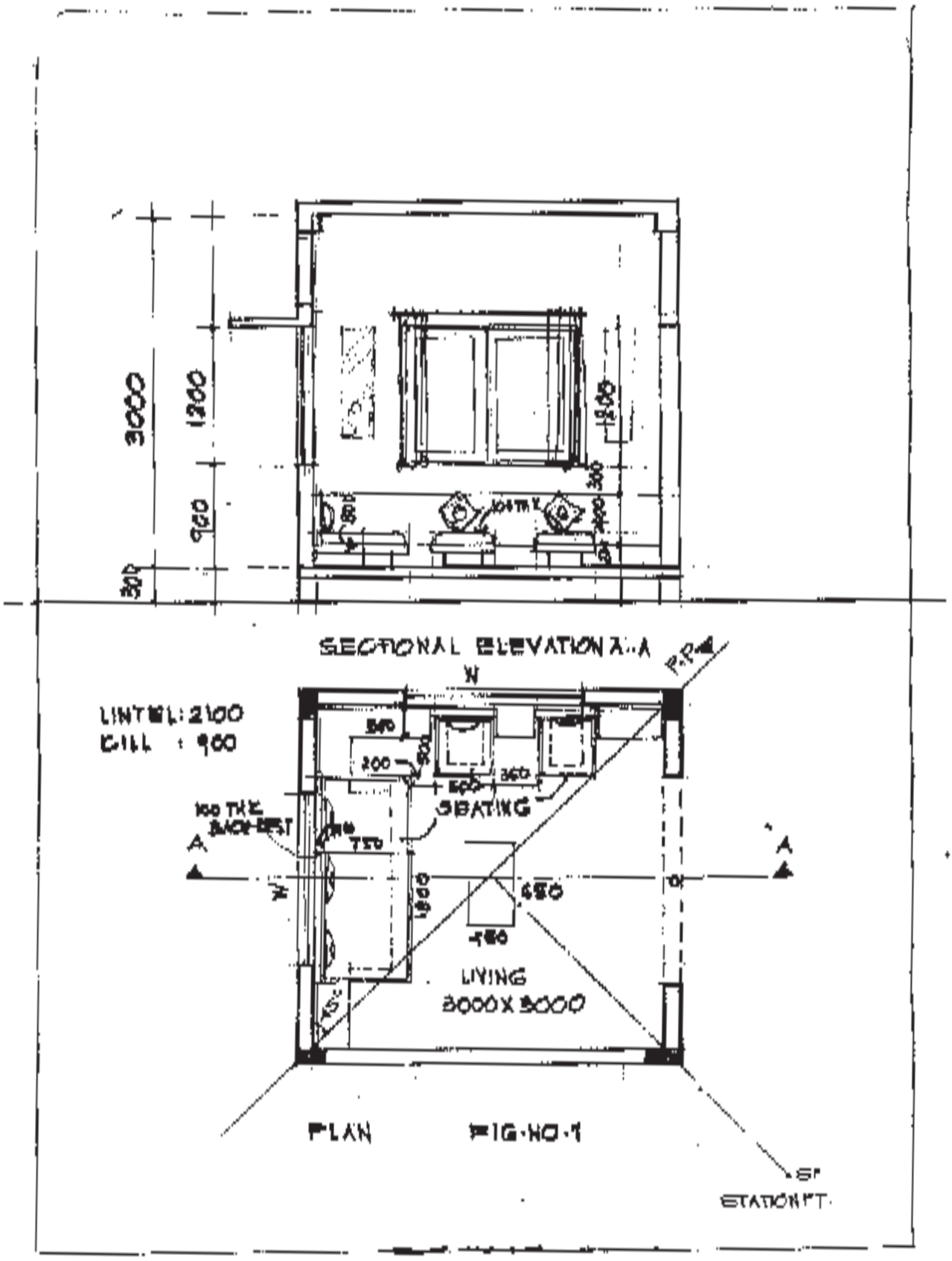
a) Shown in Fig.No.2 is plan and front elevation of object. **[20]**

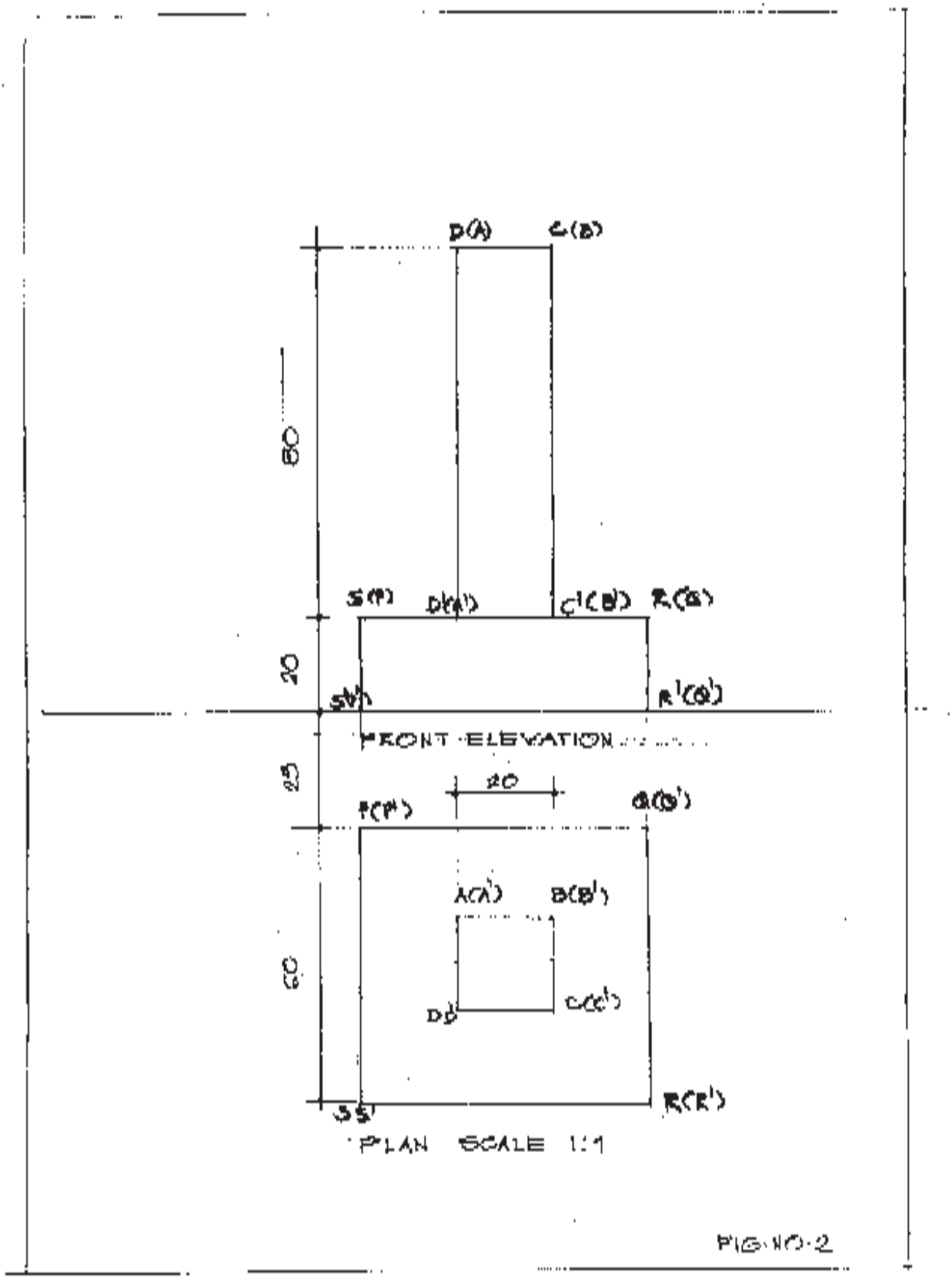
b) Show shades and shadows as the case may be on the plan and elevation of object. Give colour wash. **[20]**

Marking Scheme

a)	-	Correct Answer	12	20
	-	Drafting Skills	03	
	-	Colour Wash	05	
b)	-	Correct Answer	12	20
	-	Drafting Skills	03	
	-	Colour Wash	05	

P.T.O.


SECTIONAL ELEVATION A-A
LINTEL: 2100
SILL : 900
SEATING
LIVING
3000 X 3000
PLAN
FIG-NO-1


D(A)
C(B)
80
S(P)
D'(A')
C'(B')
R(Q)
20
S'(P')
R'(Q')
FRONT ELEVATION
25
20
P(P')
Q(Q')
A(A')
B(B')
60
D'
C(C')
R(R')
35
PLAN SCALE 1:1
FIG NO-2

☒☒☒☒

Total No. of Questions : 5] **[Total No. of Pages : 2**

P945

[3867] - 34
T.Y. B.Arch.
BUILDING SCIENCE & SERVICES - II
(2003 Annual Pattern)

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

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate books.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data if required.***
4) ***All questions are compulsory.***

SECTION - I

Q1) Calculate the no. of exhaust fans required for a community kitchen measuring 08 m × 12 m × 4 m. Show the positions of the fans in a sketch plan. State the required no. of air changes for a kitchen. **[15]**

Data:

Diameter of fan	Air handling Capacity of fan in cu.m / hr.
1. 305 mm	1900
2. 380 mm	4000
3. 457 mm	6800
4. 610 mm	7900

OR

Describe and draw the refrigeration cycle in the process of Air Conditioning.

Q2) Explain with the help of neat sketches the various methods of natural ventilation. **[15]**

OR

Explain with the help of neat sketches, stack effect, wind towers and cross ventilation.

P.T.O.

Q3) Write short notes on any FOUR: **[20]**

a) Types of fans used in mechanical ventilation.

b) Fan coil units.

c) Types of filters used in Air Conditioning.

d) Evaporator.

e) Cooling towers in Air-conditioning.

f) Window A.C. Unit.

SECTION - II

Q4) State Sabines formula and calculate the time of reverberation for a lecture hall admeasuring 10m × 6m × 4m. Assume seating capacity of hall to be 30 State the optimum time of reverberation for a lecture hall. **[20]**

Data:	No.s	Size	Description
Doors	2No.s	1 m × 2.1 m	T.W. fully panelled doors.
Windows	4No.s	2 m × 1.2 m	Fully glazed windows.
Walls	-	230 thk.	Brick wall with Neeru finished plaster.
Flooring	-	-	Marble Mosaic tiles.

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

OR

Explain the principles of auditorium acoustics with the help of neat sketches.

Q5) Explain with the help of neat sketches - any FIVE : **[30]**

a) Sprinklers and smoke detectors.

b) Dry and wet risers.

c) Masking effect of sound.

d) Public address system.

e) Effects of plan shapes on hearing conditions.

f) Methods of cutting off structure borne noise.

g) Two types of fire hydrants.

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Total No. of Questions : 3] **[Total No. of Pages : 2**

P946

[3867]-42

Fourth Year B.Arch.

BUILDING CONSTRUCTION AND MATERIALS - IV

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.***
4) ***Assume suitable data, if necessary.***

SECTION - I

Q1) An industrial shed of size 30m × 50m × 6m is to be constructed in an industrial area. Draw a plan to a scale of 1:100, and a detail section showing all structural details and a suitable roofing system giving details of lighting, ventilation and rain water disposal to a scale of 1:50. **[30]**

OR

A lecture hall of size 6m × 8m is to be constructed. With the help of neat sketches give all details of treatment to make the room sound proof.

Q2) Draw plan and section to a scale of 1:100 and two important constructional details to a scale of 1:20, of an Olympic size swimming pool. Give details of appurtenant services. **[30]**

OR

Explain with the help of neat sketches, the construction of balconies for an auditorium of size 15m × 35m.

a) Cantilever theatre balcony.

b) A partially cantilever balcony.

c) Balcony supported over the foyer.

P.T.O.

SECTION - II

Q3) Explain with neat sketches any four of the following : **[40]**

a) Long span and short span vault.

b) Any one systems of curtain walling.

c) Raking and flying shores.

d) Coffered slabs.

e) Folded slabs.

f) Any two structural systems used in high rise buildings.

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