FACULTY OF PHYSICAL PLANNING & ARCHITECTURE

SYLLABUS

FOR

MASTER OF PLANNING (M.PLAN.) (INFRASTRUCTURE) (SEMESTER: I - IV) (Credit Based Evaluation and Grading System)

Examinations: 2019-20

GURUNANAKDEV UNIVERSITY, AMRITSAR.

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(ii) Subject to change in the syllabi at any time. Please visit the University website time to time.
# Master of Planning (M. Plan.) (Infrastructure) (Semester System) 2019-20
(Credit Based Evaluation and Grading System)

## Semester - I

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Code</th>
<th>Title of the Course</th>
<th>Credits</th>
<th>Total Credits</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>L T U</td>
<td>Internal</td>
<td>External</td>
</tr>
<tr>
<td>GIL 511</td>
<td>C</td>
<td>Planning History and Theory</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
</tr>
<tr>
<td>GIL 513</td>
<td>C</td>
<td>Housing</td>
<td>2 1 0</td>
<td>3</td>
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<tr>
<td>GIL 514</td>
<td>C</td>
<td>Transportation Planning</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 515</td>
<td>C</td>
<td>Planning for Utilities and Services</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIU 516</td>
<td>C</td>
<td>CAD and GIS</td>
<td>0 0 6</td>
<td>3</td>
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</tr>
<tr>
<td>GIU 518</td>
<td>C</td>
<td>Infrastructure Plan for Urban Area</td>
<td>0 1 8</td>
<td>5</td>
<td>50  50</td>
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**Total Credits: 20**

Note: GIU 518 shall be undertaken after GIU 516 during the semester

## Semester-II

<table>
<thead>
<tr>
<th>Course No.</th>
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<th>Title of the Course</th>
<th>Credits</th>
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<tr>
<td></td>
<td></td>
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<td>L T U</td>
<td>Internal</td>
<td>External</td>
</tr>
<tr>
<td>GIL 551</td>
<td>C</td>
<td>Legislation for Infrastructure</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
</tr>
<tr>
<td>GIL 552</td>
<td>C</td>
<td>Techniques of Planning</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
</tr>
<tr>
<td>GIL 553</td>
<td>C</td>
<td>Infrastructure Development Policies I</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
</tr>
<tr>
<td>GIU 560</td>
<td>C</td>
<td>Study of Town</td>
<td>0 2 6</td>
<td>5</td>
<td>50  50</td>
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<tr>
<td>GIU 561</td>
<td>C</td>
<td>Preparation of Master Plan</td>
<td>0 2 4</td>
<td>4</td>
<td>50  50</td>
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<tr>
<td>GIL 556</td>
<td>E</td>
<td>Infrastructure Pricing and Financing</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 559</td>
<td>E</td>
<td>Transport System and Policies</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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**Students has to select elective course from E.**

<table>
<thead>
<tr>
<th>Course No. to be added after the student opts for a particular course</th>
<th>I</th>
<th>Student may opt for an ID Course for credits based on undergraduate/ Post Graduate course from any department of the University having minimum 3 credits</th>
<th>Credits to be added after the student opts for a particular course</th>
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<tbody>
<tr>
<td>GIE 651</td>
<td>C</td>
<td>Internship (8 weeks) (to be conducted during summer vocations after 2nd semester and viva-voce to be conducted in the 3rd semester)</td>
<td>4</td>
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</table>

**Total Credits : 24**

Note: GIU 561 shall be undertaken after GIU 560 during the semester

**NOTE:** PSL-053 ID Course Human Rights & Constitutional Duties (Compulsory Paper). Students can opt. this paper in any Semester except 1st Semester. This ID Paper is one of the total ID Papers of this course.
### Semester-III

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Code</th>
<th>Title of the Course</th>
<th>Credits</th>
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<th>Marks</th>
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<tr>
<td>GIL 646</td>
<td>C</td>
<td>Infrastructure for Regional Development</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 647</td>
<td>C</td>
<td>Project Management</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 648</td>
<td>C</td>
<td>Research Methodology</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIU 649</td>
<td>C</td>
<td>Infrastructure Plan of a Region</td>
<td>0 2 6</td>
<td>5</td>
<td>50 50</td>
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<tr>
<td>GIU 650</td>
<td>C</td>
<td>Detail Project Report of Infrastructure Project</td>
<td>0 2 4</td>
<td>4</td>
<td>50 50</td>
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<tr>
<td>GIE 651</td>
<td>C</td>
<td>Internship (8 Weeks)</td>
<td>- - -</td>
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<tr>
<td>GIL 652</td>
<td>E</td>
<td>Planning for Recreation</td>
<td>2 1 0</td>
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<tr>
<td>GIL 653</td>
<td>E</td>
<td>Infrastructure Development Policies II</td>
<td>2 1 0</td>
<td>3</td>
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**Students has to select one elective course from E.**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>I</td>
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**Total Credits: 28**

<table>
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<tr>
<th>Course No.</th>
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<th>Title of the Course</th>
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<tr>
<td>GIF 699</td>
<td>C</td>
<td>City Exposure</td>
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**City Exposure (to be conducted after theory and planning practice classes of 3rd semester and viva-voce to be conducted in the 4th semester)**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Total Credits</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
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**Note:** GIU 650 shall be undertaken after GIU 649 during the semester

### Semester-IV

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Code</th>
<th>Title of the Course</th>
<th>Credits</th>
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<th>Marks</th>
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<tr>
<td>GID 691</td>
<td>C</td>
<td>Thesis</td>
<td>0 4 12</td>
<td>10</td>
<td>100 -</td>
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<tr>
<td>GIF 699</td>
<td>C</td>
<td>City Exposure</td>
<td>- - -</td>
<td>2</td>
<td>100 -</td>
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<tr>
<td>GIL 694</td>
<td>E1</td>
<td>Infrastructure Management</td>
<td>2 1 0</td>
<td>3</td>
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<tr>
<td>GIL 695</td>
<td>E1</td>
<td>Infrastructure Development Models</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 693</td>
<td>E2</td>
<td>Professional Practice</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 696</td>
<td>E2</td>
<td>Community Participation in Planning</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 697</td>
<td>E3</td>
<td>Mega Projects</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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<tr>
<td>GIL 698</td>
<td>E3</td>
<td>Technologies in Utilities and Services</td>
<td>2 1 0</td>
<td>3</td>
<td>20 80</td>
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**Students have to select three elective courses, one each from E1, E2 & E3.**

<table>
<thead>
<tr>
<th>Course No. to be added after the student opts for a particular course</th>
<th>Credits to be added after the student opts for a particular course</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Student may opt for One ID courses for credits based on undergraduate/post graduate course from any department of the University having minimum 3 credits</td>
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</table>

**Total Credits: 24**
GIL 511: PLANNING HISTORY AND THEORY

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Significance of the study of evolution of settlements; Hunter, gatherer, farmer and formation of organized society; Cosmological and other influences, origins and growth of cities, effects of cultural influence on physical form; Evolution of Planning thought from ancient texts and treatise in India (Vedic Literature), Classification of settlements and plans of ancient Indian villages and towns.

Section B
Ancient Civilizations: Salient Town Planning Characteristics in Indus, Case Studies- Harppa and Mohenjo-Daro, Egyptian, Mesopotamian Greek and Roman Civilizations; Medieval Town Planning in Europe and India; Renaissance; Industrial and post industrial cities; Model and New Town Movements; Town Improvement and City Beautiful Movements.

Section C
Planning Theories by Ebenezer Howard, CamilloSitte, Patrick Geddes and Clarence Perry, C.A. Doxiadus, Lewis Mumford, F.L. Wright, Le Carbusier and Peter Hall; City as a living spatial entity; Concepts of landmark, axis, orientation; City form as a living space; City as a political statement: New Delhi, Chandigarh.

Section D
Modernism and Post Modernist Planning Thought; Neo-Marxist and Neo Liberal perspectives in Planning; Comprehensive Rational Planning Approaches; Disjointed Incrementalism and Mixed Range Approach, Strategic Spatial Planning, Advocacy and Pluralism, Collaborative and Communicative Planning, New Urbanism and Smart Growth Developments.

Suggested Readings:
Master of Planning (M. Plan.) (Infrastructure) (Semester-I) 2019-20
(Credit Based Evaluation and Grading System)


Recommended Journals

1. Planning Theory, Sage
2. Planning Theory and Practice, Taylor and Francis
GIL 513: HOUSING

Credits: 03 (L=2, T=1, U=0)

Total Marks: 100
Mid Semester Examination: 20% weightage (Marks: 20)
End Semester Examination: 80% weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Housing definition and subject matter, Modernist and post-modernist Housing thought, Housing Ideologies; their assumptions related to poverty, housing issues, housing interventions, modernization, redistribution with growth, neo-liberal, pragmatic neo-liberal, Critique of ideologies and way forward, Housing need, demand and supply; definitions, factors affecting them, theoretical models and dynamics.

Section B
Residential mobility; impacting factors and models (invasion and succession, filtering, housing chains, gentrification, life cycle and trade off model) Slums; causes and consequences and approaches, Housing area planning consideration and modules, Residential densities, Low cost housing; methodologies of cost reduction in housing, Low cost and eco-friendly building materials (indigenous, agricultural, industrial, others), Land for housing; formal and informal conduits of land supply, land partnership models for affordable housing provision (land pooling and readjustment, land reconstitution, land sharing).

Section C
Role of Institutions in housing generation and upgrading; Housing and Urban Development Corporation, Building Materials Training and Promotion Council, Central Building Research Institute, Participatory models and their application in housing, Conducting social audits in housing, Housing and community development schemes, Formal housing finance outreach and the urban poor in India, Role of informal housing finance.

Section D
Housing finance networks and institutions, Community micro-finance institutions; Self Employed Women Association Bank, Grameen Bank, Habitat International Coalition, International Slum Dwellers Federation, Urban Housing and Habitat Policy, International Agencies in Housing and Community Development, Best practices in Housing (slum upgrading, city wide networking, affordable housing provision).
Suggested Readings:


Journals
1. Housing Theory and Society, Taylor and Francis
2. Journal of Housing Studies, Sage
3. Journal of Housing and Built Environment, Taylor and Francis.
Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Meaning, scope, objectives and components of transportation planning and its importance in urban planning; Importance of traffic and travel characteristics in transportation planning; Relationship between traffic volume, concentration and speed; Hierarchy of roads; Highway capacity and level of service; Transport problems and mobility issues.

Section B
Cross sectional and longitudinal elements of urban roads - right of way, carriageway, median, service lane, footpath, curb, camber, side slope, service road, horizontal curves, vertical curves, super elevation, sight distance, access control, Intersections and interchanges – types, capacity and design principles; Traffic controls and regulation devices - traffic signs, signals and markings; Road infrastructure and road landscape design features.

Section C
Transport plan and management - comprehensive traffic & transportation plan, city mobility plan, transport system management; Urban form and transport patterns; Land use – transport integration; Accessibility and mobility issues in transportation planning; Transportation planning process – stages and surveys/studies; Traffic surveys, presentation and analysis- traffic volume, parking, origin & destination, speed & delay, accidents; Planning considerations, norms and designs of bus and truck terminals.

Section D
Transport system and urban structure; Transport systems – meaning, types, characteristics of BRTS, LRTS, MRTS and NMTS; City size and sustainable transport options. Intelligent transport system – meaning, components, characteristics and guidelines; Smart transport solutions; Legal and organizational framework for transportation; Funding of transportation systems; Transport technologies and environmental impacts - relevance in urban transportation planning; Urban transport policies in India; Transport, environment and safety issues; Principles and approaches of traffic management, transport system management.

Suggested Readings:
2. Road Safety Bill (2016). Ministry of Road Transport & Highways, Govt. of India, New Delhi.
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Master of Planning (M. Plan.) (Infrastructure) (Semester-I) 2019-20
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GIL 515: PLANNING FOR UTILITIES AND SERVICES
Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Definition of Utilities and its importance, Role of utilities in the functioning of settlements, water shortage and scarcity, importance of water supply schemes, Sources of Water- surface and underground source, Water Collection and conveyance- intakes, Distribution system, Methods of supplying water,, Water treatment processes – plain sedimentation, sedimentation with coagulation, filtration and disinfection (excluding the design part).

Section B
Issues related to Quality of water, Assessment of water demand or quantity of water for various types of demands, Urban Sanitation- systems of sanitation- conservancy and water carriage, Disposal in unsewered areas like septic tanks, privies, Sewerage systems, Pattern of Collection system, sewage disposal, sewage treatment process – screening and skimming, sedimentation, activated sludge process, Sewage sludge treatment Disposal and Utilization (excluding the design part)

Section C
Swach Bharat Mission as Government Programs related to Sanitation. Urban Storm water collection system and its components, Drainage system: determination of intensity of rainfall and run off coefficient for various sources; rain water harvesting; Reuse and recycling of water

Section D
Solid waste generation and disposal methods like composting, incineration, sanitary landfill Biomass, energy –solar, photovoltaic cells, use of PPP models in various kinds of utilities, Govt. Programs on storm water and urban drainage system and Municipal Solid waste disposal case studies. Government Programs on water supply like AUWPP (Accelerated Urban Water Supply Program)

Suggested Readings:
GIU 516: CAD and GIS

Credits: 03 (L=0, T=0, U=6)
Max. Marks: 100
Internal examination: 50
External examination: 50

The evaluation of final practical examination shall be done both by external & internal examiners jointly.

Introduction to AutoCAD, Setting up of a drawing – Coordinate system, Limits, Units, Precision, Introduction to Format, Draw, modify, commands in AutoCAD. Concept of Dimension, Layers, and Text, Arrays and Hatching in AutoCAD. Concepts of blocks and external referencing, Printing of drawing to a particular scale, concept of 3D in AutoCad.

Basic concepts of GIS and to represent geographical features in GIS. Concept of digital maps and its advantages, raster and vector maps, spatial and attributes data, various types of spatial and non-spatial analysis in urban planning using GIS.

Various data input methods in the ArcView of ArcGIS software, which includes geo-referencing, digitization, query building, spatial and non-spatial analysis, and final production of maps using GIS. For the purpose of digitization and data existing data source may be used.

Exercises undertaken by the students will be submitted in the form of soft copy of problems, hard copy of some problems, and reports / assignments.

In addition, a final practical examination will be conducted.

Suggested Readings:

GIU 518: INFRASTRUCTURE PLAN FOR URBAN AREA
Credits: 05 (L=0, T=1, U=8)
Max. Marks: 100
Internal examination: 50
External examination: 50

The evaluation of final practical examination shall be done both by external & internal examiners jointly.
Each student in a group or individually shall be required to prepare infrastructure plan of existing layout of an area in the city/town. The exercise shall cover the following aspects:

a) Preliminary site investigation and analysis:
   - Site inventory - topography, soil characteristics, site resources and physiographic conditions.
   - Site suitability for development – slope, drains.
   - Site in relation to the city and surrounding land use and city level infrastructure lines.
   - The proposed layout and population distribution.

b) General planning guidelines

c) Application of norms and standards

d) Requirements

e) Design considerations and conceptual plans

f) Proposals for infrastructure: Physical - water supply, sewerage network, drainage, rain water harvesting, street & street furniture, solid waste management; Social – education, health, recreational, postal, religious

The plan shall be suitably presented in form of a report illustrated with necessary drawings, maps, charts, diagrams and photographs.

“Note: The Students are required to undertake field surveys for data Collection for the said Planning Studio Exercise.”

Suggested Readings:
Master of Planning (M. Plan.) (Infrastructure) (Semester-II) 2019-20
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GIL 551: LEGISLATION FOR INFRASTRUCTURE

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Interface between policy and legislation pertaining to infrastructure development. Understanding of Law, Concepts, sources, significance of law and its relationship to infrastructure planning; benefits of statutory backing for schemes - eminent domain and police powers; Indian Constitution: concept and contents, provision regarding property rights; legislative competence of central and state legislature in context of infrastructure projects;

Section B

Section C
Policies and legislation pertaining to infrastructure development, their objectives, contents and planning implications - Electricity Act, Land Acquisition Act: Historical background, need, advantage, limitations, relevance in today’s context, procedure for compulsory acquisition of property and determination of compensation; infrastructural development and land acquisition.

Section D
Environmental Acts- water prevention and control of pollution act, air prevention and control of pollution act, environmental protection act and relevance in context infrastructural projects; Environment Impact Assessment, concept, need, process and environmental clearance for different categories of infrastructural projects as per EIA notification; Case studies highlighting nature of contention, parties in dispute and the decisions in specific infrastructure projects dispute.

Suggested Readings:


GIL 552: TECHNIQUES OF PLANNING

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks: 20)
End Semester Examination: 80% weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Planning definitions and concept, Categories of Planning (economic, social and physical) and their integration; Planning at different levels, Town as a physical, social, economic and functional entity, Town typology and their characteristics, Urbanization and Urban Growth, Identification of problems and priorities, Preparation of plans; Perspective Plan, Master Plan, Development Plan, Zonal Plans, Project Plans/Schemes;

Section B
Concept of Regional Planning and development. Aims & Objectives of Regional planning, classification of regions, regionalization and delineation techniques for various types of regions., regional planning vis-vis National Five Year Plans, Regional economic activities such as primary, secondary, tertiary – factors governing & influencing the size, structure of these activities, Role of public participation in plan formulation and implementation.

Section C
Planning Surveys, Primary-Sampling techniques, interview schedules and questionnaire design, Secondary data-format and attributes of data in terms of its relevance, reliability and compatibility Data processing: Designing performa for computers, classification, coding & tabulation, editing and control of error, Data presentation techniques,

Section D
Site planning process; selection of site, site analysis, general principles and guidelines for plan preparation, Site Planning standards, Preparation of plans for residential, commercial, Institutional, recreational and industrial sites. Norms & Standards

Suggested Readings:
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Master of Planning (M. Plan.) (Infrastructure) (Semester-II) 2019-20
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GIL 553: INFRASTRUCTURE DEVELOPMENT POLICIES I

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80% weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Policy: Meaning, Types, Tools, Attributes of a good policy-making process, Weaknesses in India's Public Policy making, Introduction to Constitutional, Central list, State list and concurrent list, Legal framework, Infrastructure and Economic Development.

Section B

Section C

Section D
Railways- Evolution of Railways in India, Importance of Railways, Organizational Setup of Ministry of Railways, R3i Policy, Major Projects, Dedicated Freight Corridors, Urban Railway; Civil Aviation – Evolution, Role, Legal and Regulatory Mechanism, AAI, DGCA, National Civil Aviation Policy, Airport Infrastructure Policy; Ports - Role of Ports, Port Types, Institutional Setup, Major Ports, Cargo traffic, Port Policy, Containerization

Suggested Readings:
1. India Infrastructure Reports (1996 to 2014), Oxford University Press, USA.
8. JNNRUM Guidelines (2005), Ministry of Urban Development & Poverty Alleviation, Govt. of India, New Delhi.
GIU 560: STUDY OF TOWN

Credits: 05 (L=0, T=2, U=6)
Max. Marks: 100
Internal examination: 50
External examination: 50

The evaluation of final practical examination shall be done both by external & internal examiners jointly.

Understanding the theoretical base of the city—Prevailing concept of urban planning and development, contents of the study of a city/town, best practices adopted in India (abroad-examples), Review of the previous works done, Outline of the planning laws. Stage of the Comprehensive Plans- Regional, City and Local Area Plans (LAP). Preparation of detailed Map-Regional, City and Local Area (selected pockets for Zonal Plans).

Preparation of Detailed report- With clear use of references and approach adopted. Basis of analysis, Broad Chapter classification, briefing outline of each chapter, work details. Delineation of region or Influence area of city may be concluded. Detailed Discussions of the work, Identifications of the Problems and Potentials in: Regional context (Settlements, Networks, Resources Uses, Siting)

City- Aspects as per discussion, Local- As per critical and priority in the approach adopted. Application Planning Norms- Existing Planning procedure, Identification of GAPS. Final Submission and review (Drawing, Maps, Report).

“Note: The Students are required to undertake field surveys for data Collection for the said Planning Studio Exercise.”

Suggested Readings:
GIU 561: PREPARATION OF MASTER PLAN

Credits: 04 (L=0, T=2, U=4)
Max. Marks: 100
Internal examination: 50
External examination: 50

The evaluation of final practical examination shall be done both by external & internal examiners jointly.

The students are required to prepare a plan on the basis of identification of problems, potentials of the town studied as per “GIU 560 – Study of Town”.

The scope of Comprehensive Development plan preparation will include working out the detailed requirements; formulation goals, objectives and policies; planning considerations; conceptual framework; planning proposals including zoning and phasing; and implementation strategy covering organizational and financial aspects.

The Master plan shall be submitted in form of a detailed report illustrated with necessary maps, charts, drawings, sketches.

“Note: The Students are required to undertake field surveys for data Collection for the said Planning Studio Exercise.”

Suggested Readings


Journals

1. Spatio-Economic Development Record
2. ITPI Journal, ITPI
3. Cities, Elsevier
4. Third World Planning Review, Liverpool University Press
Master of Planning (M. Plan.) (Infrastructure) (Semester-II) 2019-20
(Credit Based Evaluation and Grading System)

GIL 556: INFRASTRUCTURE PRICING AND FINANCING (ELECTIVE)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks: 20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Meaning and Scope of infrastructure financing, Concept of SPV, Limits to existing financial resources: Debt financing, Equity financing. Forms of financing: insurance of bonds, Loans from banks and financial institutions: prospects and limitations. Privatization and Private sector contribution in financing infrastructure

Section B
Concessions, BOT, BOO, Divesture, Franchising, Attracting private investors. Financing market: bonds, credit rating agencies, repayment capacity, borrowing capacity; Land based resources, financing infrastructure development: tax and non-tax revenue of Development Agencies; Remuneration projects.

Section C
Cost components of infrastructure development; Socio-economic cost benefit analysis; Principles of determining cost and price of infrastructure development to be charged from consumers/users: Cost recovery and affordability; feasibility of project, Net Present Value (NPV) and Internal Rate of Return (IRR). Subsidy and cross-subsidy of infrastructure projects;

Section D
Principles of maximum social advantage, Social Cost Benefit and Cost Benefit Analysis. Principles of determining cost and price of infrastructure development to be charged from consumers/users. State Finance Commission: its role and recommendations for infrastructure projects; Case studies of Infrastructure projects and their financing under JNNURM.

Suggested Readings:
1 Recent five year plan, Planning commission, GOI.
GIL 559: TRANSPORT SYSTEM AND POLICIES (Elective)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Genesis and characteristics urban passenger transport system; Public transport modes and their characteristics –mass rapid transit systems, light rail transit system, bus rapid transit system, para transit system; Public transport demand and supply – indicators and determinants in cities of various sizes and socio-economic settings; Infrastructure for transport systems – components, characteristics and principles.

Section B
Intelligent transport system; Public transport system performance and economic aspects – physical and financial performance indicators; Public transport fare types and pricing criteria, costs, services, price elasticity of demand; subsidy issues; Public transport network planning – feasibility conditions of public transport system; Impact of city density, size, activity concentration on public transport patronage.

Section C
Form, type and density of bus route network, bus route network planning principles; Types of bus priority measures, merits and limitations, case studies; Scheduling – bus operation design, bus scheduling and time table principles: Regulation, privatization impacts and integration issues on public transport performance; Public-private partnership and transport sector financing; Funding of transportation systems.

Section D
Urban transport policies and issues related to sustainable transport; Strategies for urban transport improvement; Urban forms and structure and its impact on travel pattern; Transit Oriented Development (TOD); Concept of accessibility and its impact on land use; Legal and organizational framework for transport systems; Transport Policies – Objectives, issues and recommendations; National Transport Development Policy; National Road Safety Policy; Motor Vehicle Act;

Suggested Readings
Master of Planning (M. Plan.) (Infrastructure) (Semester-III) 2019-20
(Credit Based Evaluation and Grading System)

GIL 646: INFRASTRUCTURE FOR REGIONAL DEVELOPMENT

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Definition and types of regions; importance of infrastructure (physical, social and economic) in regional perspective, Status of regional development in India, Policies & Programs for regional infrastructure development in various Five Year Plans.

Section B
Need for innovative approaches in infrastructure development. Integrated infrastructure planning process, Regional infrastructure in the context of different level of regions. Norms & Standards. Regional infrastructure constraints, current practices for regional infrastructure development.

Section C
Planning for infrastructure in a region – Transport, water resources, telecommunication, electricity, energy resources, agriculture market, fertilizer, implements, research and development, extension services. Planning for infrastructure in a village and its hierarchy – physical, social and economic.

Section D
Regional infrastructure development issues, priorities & strategies in Punjab. Selected case studies of Regional development – Rajasthan canal area and National Capital Region.

Suggested Readings
2. Bhattacharyay, BiswaNath, Masahiro Kawai and Rajat M. Nag, (2012).“ Infrastructure for Asian Connectivity”, Edward Elgar Phublishing Limited, USA
4 Govt. of India (1997). Report of Task Force on Planning and Development of Small and Medium Towns & Cities,
Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Concept and classification of project, Meaning and Objectives of Project Management, stages of project management – Project Conception and Initiation, Project launch or Execution, Project Performance or Control, Project Commissioning; Significance of project Management in urban planning, Life cycle of a project.

Section B

Section C

Section D
Discounted Cash-flow analysis, Cost-benefit analysis: Financial & social cost-benefit analysis in public and private sector projects. Application of cost and benefit analysis in developing countries – Case studies in housing, transportation and infrastructure development projects under JNNURM and NCR.

Suggested Readings:
Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Definition and needs of Research, Scientific research and methods, System approach of research, Levels of research: micro and macro; Major steps in the conduct scientific research, induction, deduction and verification; Selection and formulation of research problems, reviewing of literature, Designing a research, Pre-test and pilot study.

Section B
Hypothesis; meaning, importance and different concept, formulation and testing of hypothesis, Tests of Hypothesis, z-test, t-test, F-test, Chi-square test. Lorenz Curve. Measures of central tendency and Measures of dispersion – measures of dispersion – meaning and importance, range, quartile deviations, mean deviation, standard deviation. Correlation and Regression Analysis - meaning, types, importance, methods of measurement.

Section C
Synopsis, and components of synopsis, Research Compilation and report: contents and style, factors in the organization of a research report, writing of foot notes, quoting styles, references, cross referencing and bibliography; Issues & areas of urban planning research and data.

Section D
Definition of Concept, Theory and facts, Process of theorization; Meaning. Definition and classification of Model, of models, role of different types of models used in urban planning, process of model application, Understanding and evaluation of operational models related to landuse, transportation, location/allocation of activities, land value, accessibility and simulation of urban growth, in terms of their objectives, theoretical structure, mathematical formulation, applications and limitations.

Suggested Readings:
Master of Planning (M. Plan.) (Infrastructure) (Semester-III) 2019-20
(Credit Based Evaluation and Grading System)

GIU 649: INFRASTRUCTURE PLAN OF A REGION

Credits: 05 (L=0, T=2, U=6)
Max. Marks: 100
Internal examination: 50
External examination: 50

The evaluation of final practical examination shall be done both by external & internal examiners jointly.

Infrastructure has to be undertaken within the larger developmental perspective. In view of this, the exercise attempts to expose the students with knowledge base related to various sub-section like roads, railways, irrigation, telecom, industrial, agriculture infrastructure, health infrastructure, proper distribution of social facilities & open spaces, consideration for economically weaker section. In addition, issues related to provision of infrastructure services, existing gaps, financing & Implementation strategies and role of various agencies in realizing the plan are also important.

The students will carry out survey and studies (primary & secondary) of the blocks and will cover the baseline study (physical, social, economic, environmental, and institutional) including regional setting, historical profile, physiographic features, natural resources, demographic details, land utilization, housing, settlement pattern, agriculture and allied activities, industrial development; Infrastructure sector status of energy, tourism, transport, information and communication technologies (ICT), water, supporting infrastructure (social, agricultural, industrial) and legal, administrative and financial including regional/rural policies and programmes, legal and administrative structure, financial setup for the regional infrastructure plan.

The students will analyze issues in various sectors of the region looking into their social, economic, environmental and institutional dimensions. The students are expected to go into details of each of the infrastructure sectors with a view to develop a plan that shall mitigate grass root level development issues and help in generating social and economic capital. New theoretical and global approaches in the field of regional and micro level development need to be researched for the purpose of their applications in the said region. The students are motivated to adopt innovation and research oriented tactics in order to present their final outputs.

“Note: The Students are required to undertake field surveys for data Collection for the said Planning Studio Exercise.”

Suggested Readings:
GIU 650: DETAIL PROJECT REPORT OF INFRASTRUCTURE PROJECT

Credits: 04 (L=0, T=2, U=4)
Max. Marks: 100
Internal examination: 50
External examination: 50

The evaluation of final practical examination shall be done both by external & internal examiners jointly.

The students shall be required to prepare a Detailed Project Report (DPR) for any component/s of city infrastructure as proposed in the Comprehensive City Infrastructure Development Plan prepared in previous planning studio. Efforts shall be made to take up the live projects of city infrastructure. The scope of the DPR shall confine to cover all the stages of project preparation including:

- Identification of activities.
- Activity event chart (Network Chart)
- Cost estimation in detail.
- Time-cost chart (Gantt chart)
- Cost recovery plan (if required)

The DPR so prepared shall be presented suitably in form of maps, charts, diagrams, photographs, sketches supported by detailed report for its submission and final evaluation.

“Note: The Students are required to undertake field surveys for data Collection for the said Planning Studio Exercise.”

Suggested Readings:

The students are required to work in the planning office/organization they are assigned to, for a period of 8 weeks. The students are required to understand the following and write a report (25-30 pages) containing the following aspects:

1. A brief introduction to the organization.
2. Objectives and functions of the organization.
3. Nature and structure of the organization, explanation of various divisions and their role/working in the organization.
4. Nature of projects, responsibilities and authority (Legal, Jurisdictional etc.) of the organization in the recent past.
5. Nature of current projects in brief, undertaken by the organization.
6. Details of the project(s)/activities the student has worked upon.
7. Student’s contribution, comments/observation on various activities/project(s) undertaken by him in the organization.
8. Nature of responsibility given to the student and the work done by him/her on weekly basis.
9. The viva-voce of the report shall be conducted by the Internship Coordinator.

The student is required to bring the following documents on the official letterhead from the organization in which he/she has undergone internship:

1. Joining Report: A letter issued by the organization duly signed by the internship supervisor/authorized signatory.
2. A certificate from the head of the organization/division regarding attendance of internship and its successful completion.
GIL 652: PLANNING FOR RECREATION (Elective)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks: 20)
End Semester Examination: 80% weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Concept of leisure and recreation and its significance, Leisure as time, activity and state of mind, Theories of leisure and recreation (surplus energy, recreation theory, instinct-practice, catharsis theory, Play as a social and psychological necessity, theories of play; stimulus-arousal, competence-effectance, types of recreation; active, passive, outdoor, indoor and forms; sports, performing arts and amusement, fine arts, nature based, technology based of recreation activities, core and non-core recreation activities.

Section B
Spatial and design requirements for recreation activities, norms and standards for provision of recreation spaces for core and non-core activities, Infrastructure for recreation based activities: accommodation types, location and requisites, (camps, caravans, hotels, inns, motels, resorts, bed and breakfast), Planning and management of recreation in natural settings: national parks, game parks, wildlife sanctuaries, wetlands, river and lakes, desert, coastal and mountain based recreational activities.

Section C
Recreation master plans for cities and regions; considerations, hierarchy, levels and provisions, Planning for entertainment and recreational cities and hubs, twenty four hour spaces and night life recreation planning, Planning and location of Theme parks, Planetariums, science parks, Therapeutic recreation centres, Special considerations for environmentally sensitive areas.

Section D
Local economic development through recreation activities, Community based recreation development, Meeting recreation needs in regional and rural areas; considerations and provisions, Policy and legislation for Recreation based Activities, Recreation based case studies and best practices nationally and internationally.

Suggested Readings:

**Recommended Journals**

Master of Planning (M. Plan.) (Infrastructure) (Semester-III) 2019-20
(Credit Based Evaluation and Grading System)

GIL 653: INFRASTRUCTURE DEVELOPMENT POLICIES II (ELECTIVE)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A

Section B
Health –Introduction, Programmes, Public Health Infrastructure, Role of Private Sector, Legal Setup, Regulatory Mechanism, Institutional Setup, Health Policy, Role of Government and Private Sector in Health Infrastructure, Inter-Sectoral Contribution to Health, Objectives, Salient Points of NHP, National Rural/Urban Health Missions,

Section C
Education – Objectives, School Education, Higher Education, Regulatory Bodies: AICTE, UGC, NCERT, Recommendations, Panchayati Raj and Governance, Roles of Constitutional Amendment

Section D
Rural Infrastructure, Rural Telecom, Rural Roads, Rural Electrification and Bio-Energy, Irrigation and Water Resources, Rural Drinking Water and Sanitation, Health Infrastructure in Rural India, Rural Education, PURA Guidelines, MANREGA Scheme, Role of International Institution (World Bank, Asian Development Bank) in provision of Infrastructure

Suggested Readings:
1. India Infrastructure Reports (1996 to 2014), Oxford University Press, USA.
10. JNNRUM Guidelines (2005), Ministry of Urban Development & Poverty Alleviation, Govt. of India, New Delhi.
As per the clause 4 of revised ordinances of Credit Based Continuous Evaluation Grading System 2018, thesis shall be evaluated by a Board of three examiners comprising the Head of the Department or Nominee, Thesis Coordinator and Supervisor.

The main objectives of preparing a thesis is to provide an opportunity to each student to undertake an independent study/research to explore in depth and to develop a subject of his/her own choice demonstrating the ability to use effectively the tools of independent investigation and judgment. The theme of the thesis should offer scope to adopt a fresh approach in formulating a concept of developing a methodology, effective and useful in the realm of infrastructure planning. Each student shall prepare thesis on a selected topic under the supervision of a guide.

Both thesis topic and guide shall be approved by BOC. The thesis shall forthright be presented in the External Viva-voce examination, in the form of a report well illustrated by maps, drawings, charts, sketches, photographs.
Each student shall be required to visit different places in the country or abroad of his or her own choice. The objective of the visit is to experience the students to the functioning of various planning & development organizations as well as to see their live projects.

1. The students shall, as a part of the exposure visit Town & Country Planning offices/Municipal corporations and other related offices and conduct site visits of live projects and observations of the city.

2. A report (25 pages) is to be submitted to the respective coordinators covering the following details:
   i) Organizational and legal setup of the visited offices.
   ii) Projects of the organization (last 5 years).
   iii) Site visit reporting must be supported by photographs / illustrations and Maps.
   iv) Observations regarding spatial planning in the city.

3. The final report shall be evaluated through a viva-voce examination by the respective coordinator.

**Note:** Exposure tour is to be conducted during III semester and Viva-voce to be conducted in the IV semester.
Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20
(Credit Based Evaluation and Grading System)

GIL 694 – INFRASTRUCTURE MANAGEMENT (ELECTIVE 1)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Meaning and scope of Infrastructure Development Management; Functions, components, stages and principles of Management in relation to Infrastructure Development, Infrastructure Development Issues in the industry and in live projects like megaprojects of infrastructure sectors. Successful megaprojects in various infrastructure sectors.

Section B
Infrastructure Development in India; policies, programmes and provisions in the Current Five Year Plan. Various National level organizations related to Infrastructure Development e.g National Highway Authority of India, NitiAyog in terms of their background, functions, powers, setup and resources (with some case studies).

Section C
Various State level organizations related to Infrastructure development Punjab Infrastructure Development Board, GIDB, Public Works Deptt., Gujarat Maritime Board, Water supply and sanitation Boards in terms of their background, functions, powers, set-up and resources (with some case studies). Process of decision making for Infrastructure Development at Human Settlements/local Level.

Section D
Various local level organizations related to Infrastructure Development in terms of their background, functions, powers, set-up and resources Municipal Corporation (with some case studies). Role of Non-Government and Private Organizations in Planning and Development of Infrastructure and their relationships with Local and State Governments. Importance and methods of Public-Private Partnership (PPP); Public/Citizen participation in Infrastructure Planning and Development.

Suggested Readings:
1. India Infrastructure Report (2014), IDFC, Oxford University Press, USA
7. Report of Task Force on Planning and Development of Small and Medium Town and Cities
(1997), Government of India.
Formulation and Implementation Guidelines', ITPI, New Delhi.
    "Integrated Urban Infrastructure Development in India".
Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20
(Credit Based Evaluation and Grading System)

GIL 695 – INFRASTRUCTURE DEVELOPMENT MODELS (ELECTIVE 1)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks: 20)
End Semester Examination: 80% weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Infrastructure provision in India- Pre Independence, Pre-Liberalization (Public Sector role in Infrastructure Development), Post- Liberalization, Issues relating to infrastructure provision, Prerequisites for attracting Private sector investments in Infrastructure, Models of Infrastructure Financing, BOT, BOOT, BOO, LDOT, BDOT, Problems and Issues emerging in PPP models.

Section B
Case study of PPP models in various sectors- Transport - Roads - BOT, BDOT Public Transport – BRTS, PRT; Railway lines – PPP, examples – railway lines connecting ports, privatization of container trains, dedicated parcel trains, wagon investment scheme, luxury trains, tourist lodges, DFC, DMIC, Metro; Airports – LDOT model in India, Fully Privatized model, Partially privatized models

Section C

Section D

Suggested Readings:
2 India Infrastructure Reports (2010-2014). Infrastructure Development Finance Company, Oxford University Press, USA.
Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20
(Credit Based Evaluation and Grading System)

3 Toolkit for PPP in Urban Water supply for Maharashtra (2009). PPP Cell, Department of economic Affairs, Ministry of Finance, Government of India, New Delhi


5 Private Participation in Infrastructure, (2010). Secretariat for Infrastructure, Planning Commission, GOI.
Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20
(Credit Based Evaluation and Grading System)

GIL 693: PROFESSIONAL PRACTICE (ELECTIVE 2)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Introduction and importance of professional practice in Planning, Role of Planner in decision making process-relevant issues – generalist versus specialist, professional versus technocrat. planner as a decision maker versus planner as planning advisor, relationship with client, developers, institutions and contractors; relationship with other experts such as engineers, architects, sociologists, economist, lawyers.

Section B
Aims & objectives of professional institutes such as Institute of Town Planner, India, Sister professional institute such as Institute of Engineers, Institute of Architecture. Professional role and responsibility of a planning consultant; Professional ethics and code of conduct, Professional Planning in Public Sector – National Level, Interstate Level, State Government Level, District Level, Metropolitan Area Level, and Local Level.

Section C

Section D
Study of Revenue Plans in context of layout plans, Various services rendered by professional planner; Consultancy agreements & contracts, Charges for normal and special professional services and their mode of payment. Personnel Management – Objective, Motivation Theories, Leadership, Time Management; Performance Appraisal- its importance and various techniques. Relationship of the professional planner with clients, contractors, developers, public bodies and institutions; Copy rights, Disputes arbitrations; Handling of legal matters.
Suggested Readings:
Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20
(Credit Based Evaluation and Grading System)

GIL 696: COMMUNITY PARTICIPATION IN PLANNING (ELECTIVE 2)
Credits: 03 (L=2, T=1, U=0)

Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Definition, concepts and subject matter of community participation, Theoretical aspects of community participation; Levels of community participation :S. Arnstein’s ladder, Roger Hart’s ladder, Sarah White’s typology of participation, Scott Davidson wheel of participation, UNDP model and Government of India’s initiatives. Social audit, community participation law,

Section B
Vulnerability and human rights, Importance of communication for urban & regional planners, role of effective communication in society, understanding concept of inclusion, community based organizations, Understanding participatory processes, techniques of participation, methods of communication, written, oral and visual communication, objective of communication, developing a communication strategy, Creating participation matrix,

Section C
The clear participation model, Methodologies of deliberation and collaboration, emerging approaches to community participation, Empowered participatory governance and planning. Role of Non-Government organizations and community organizations/Voluntary organizations in community mobilization, community participation in the policy cycle, community participation evaluation methodologies.

Section D
Challenges and obstacles to community participation, requisites of successful community participation, Capacity building for successful community participation, Community participation best practices in : Urban Planning, rural & regional development, Re-habitation, and resettlement, Heritage and conservation, Sanitation, Tourism development, Disaster Management & preparedness,

Suggested Readings


Journals
1. Journal of Community Development, Taylor & Francis online
2. Journal of Community Mobilization and Sustainable Development

Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20
(Credit Based Evaluation and Grading System)

GIL 697: MEGA PROJECTS (ELECTIVE 3)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks:20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Mega project definition, concepts and subject matter; classification of mega projects; investment based, activity based, Current status of Mega projects in India, Theories of development in context of Mega Projects; political symbolism, social conflict theory, Types and nature of mega projects; transportation based, industrial, commercial, residential, energy, others, Trans-national mega projects.

Section B
Cycles in mega project development; Trendsetters, promoters, surge and declines, waves of mega project innovations; Bilbao effect, Impacts of mega projects and pitfalls, From Megastructures to Megalopolis; city transformations through mega projects, Guidelines for mega projects at national level, Critical Infrastructure requirements for mega projects, theoretical ideologies towards mega project infrastructure provisions.

Section C
Mega projects as instruments of urban planning and development, Mega projects as instrument of social and environmental changes, Environmental and land acquisition issues in mega projects, Mega project development policies for multiplexes and hotels, Mega industrial parks, Agriculture mega projects, Mega housing projects, Super mega projects, Special economic zone, Dry ports and free ports, Theme parks.

Section D
Finance for mega projects, Private Sector participation in mega projects ,Mega projects and environment implications, Mega projects and displacements, National Rehabilitation and resettlement policy 2007, National/international Case studies of mega projects; Dams, Airports, Aerotropolis, Ports, SEZ, Amusement parks, Commercial developments, problems, prospects and policy reforms for developmental displacements in India, rehabilitation measures post displacement. Case studies of displacement and rehabilitations (SardarSarovar dam, Hangzhou, China.
Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20

(Credit Based Evaluation and Grading System)

Suggested Readings:

Recommended Journals
1. International Journal of Urban and Regional Research, Wiley Publications, USA.
Master of Planning (M. Plan.) (Infrastructure) (Semester-IV) 2019-20
(Credit Based Evaluation and Grading System)

GIL 698: TECHNOLOGY IN UTILITIES & SERVICES (ELECTIVE 3)

Credits: 03 (L=2, T=1, U=0)
Total Marks: 100
Mid Semester Examination: 20% weightage (Marks: 20)
End Semester Examination: 80 % weightage (Marks: 80)

Instructions for the Paper Setters:
Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Section A
Advanced water treatment technologies and their working – DEWATS (Decentralized waste water treatment), Membrane filtration technologies, oxidation technologies, aerated lagoons, desalination plants for sea, case studies across the globe and India.

Section B
Chemically enhanced primary clarification, Wet weather flow treatment, Headwork improvements, Secondary treatment, Effluent reuse, High-level disinfection, Trace organics control, Bio solids planning and design. Sewage treatment Infrastructure under various action plans – Ganga Action Plan, Yamuna Action Plan, various processes - Activated Sludge Process (ASP), Trickling Filter (TF)

Section C
Waste Stabilization Ponds (WSPs), Up-flow Anaerobic Sludge Blanket (UASB) Process, Facultative Aerated Lagoons (FAL), Duckweed Pond System (DPS), Advanced Aerobic Processes (AAP), Plants Producing Recyclable Quality Effluent, Case studies of various cities where technology is used. Success and failures of various cities

Section D
Planning for Electrical and Telecom Networks: Planning of electrical distribution network, electrical substations, Solid waste Management study at site, city level. Different techniques involved vermin composting, sanitary landfill, concept of zero waste, use of alternative energy sources at site level vis a vis solar energy, wind energy, biomass and Integrated circuits.

Suggested Readings:
3. Andy Valdar, (2006), Understanding Telecommunications Networks, IET