

द्वितीय पत्र :- विभिन्न एण्ड आर्किटेक्ट सम्बन्धी विषय

### **Section A- 30 Marks**

- 1. Building Materials and Construction** 30%
- 1.1 Stone masonry: Types of stone used in stone masonry, specifications of stone masonry.
  - 1.2 Brick masonry: Classification of bricks, specifications of different types of bricks, testing of bricks, different shapes of bricks.
  - 1.3 Hollow Concrete Blocks: Various types of concrete blocks, use of concrete blocks in buildings.
  - 1.4 Sand: Requirement of good quality sand, sieve analysis, fineness modules.
  - 1.5 Lime: Different types of lime and their uses test of freshness.
  - 1.6 Mortar: Types of mortar, specifications, proportion of mortar for various types of masonry works.
  - 1.7 Paintings: Types of paints, specification for various types of painting Works.
  - 1.8 Water proofing: Water proofing at basement, ground floor and roofs, common water proofing problems in Nepal.
  - 1.9 Roofing Systems: Different types of roofing system.
  - 1.10 Doors and windows: Different types of doors and windows, door and window details, merits and demerits of metal door and windows.
  - 1.11 Walls: Different types of wall system, Load bearing walls, partition walls and curtain walls.
  - 1.12 Pre-fabrication: Principles of pre-fabrication, advantages and disadvantages of a pre-fabricated building.
  - 1.13 Flooring: Different types of flooring, specification of floorings.
  - 1.14 Plastering: Different types of plasters and coating materials.
  - 1.15 Formworks: Shoring, underpinning, scaffolding and formworks.
  - 1.16 Building Elements: Foundation, super structure, lintel, floors, roofs, sun control devices, parapet, staircase, emergency stairs, elevators and escalators
  - 1.17 Building services: water supply and sanitation, electrification, heating and ventilation and air-conditioning.
  - 1.18 National Building Code: Hierarchy of building codes and its application, procedure for implementation of building code in Nepal.
  - 1.19 Development Control System in municipalities in Nepal
  - 1.20 Maintenance and repair of buildings.
  - 1.21 Principles of low cost construction techniques.
  - 1.22 Current building norms for estimating and costing.

### **Section B- 20 Marks**

- 2. Structural Design and Analysis** 20%
- 2.1 Design of RCC footings, columns, slabs, beams..
  - 2.2 Analysis of structural system in a building.
  - 2.3 Design of steel structure.
  - 2.4 Design of timber structure.
  - 2.5 Design of masonry structure.
  - 2.6 Common structural problems in RCC buildings in Nepal.
  - 2.7 Requirements of earthquake resistant building construction.
  - 2.8 Computer Aided Design (CAD) of building structure.
  - 2.9 Mandatory Rule of Thumb in building design.
  - 2.10 Non-engineered earthquake resistant building design.

### Section C- 30 Marks

- 3. Housing and Urban Planning** 30 %
- 3.1 Hierarchy of urban settlements,
  - 3.2 Types of urban settlements in Nepal.
  - 3.3 Base Maps:
  - 3.4 Hierarchy of plans
  - 3.5 Principles of land use planning
  - 3.6 Building byelaws
  - 3.7 Periodic plans for local authorities
  - 3.8 Planning legislation of Nepal
  - 3.9 Environmental issues in urban development.
  - 3.10 Institutions involved in urban planning and development in Nepal.
  - 3.11 Types of urban development programmes in Nepal.
  - 3.12 Conservation of heritage sites,
  - 3.13 Settlement planning for disaster mitigation.
  - 3.14 Municipalities of Nepal and their role in urban development.
  - 3.15 Town Development Committees and their role in urban development.
  - 3.16 Different types of housing,
  - 3.17 Principles of housing design,
  - 3.18 Different models of land development,
  - 3.19 Squatter and slums,
  - 3.20 Private housing development,
  - 3.21 Rural housing, housing development programmes in Nepal,
  - 3.22 Prospects of apartments and group housing in Nepal.

### Section D- 20 Marks

- 4. Architecture** 20%
- 4.1 History of architecture
  - 4.2 Contemporary world architecture
  - 4.3 Contemporary Nepalese architecture
  - 4.4 Traditional architecture of Nepal
  - 4.5 Architecture of Kathmandu Valley
  - 4.6 Principles of architectural design.
  - 4.7 Factors to be considered while designing buildings.
  - 4.8 Standards to be followed while designing buildings in Nepal
  - 4.9 Contemporary world architects and their works
  - 4.10 Architectural landmarks in Nepal
  - 4.11 Conservation of historic buildings.
  - 4.12 Ethics of architects in professional practice.
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प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र  
लिइने सामूहिक परीक्षण (Group Test) का लागि

सामूहिक छलफल (Group Discussion)

यस प्रयोजनका लागि गरिन परीक्षण १० पूर्णाङ्क र ३० मिनेट अवधिका हुनेछ जुन नेताविहिन सामूहिक छलफल (Leaderless Group Discussion) का रूपमा अवलम्बन गरिन छ । दिइएका प्रश्न वा Topic का विषयमा पालैपालोसँग निर्दिष्ट समयभित्र समूहबीच छलफल गद प्रत्येक उम्मेदवारले व्यक्तिगत प्रस्तुति (Individual Presentation) गर्नु पर्नेछ । यस परीक्षणमा मूल्याङ्कनका लागि देहाय अनुसारका ३ जना भन्दा बढीको समिति रहनेछ ।

आयोगका सदस्य	-	अध्यक्ष
आयोगका सदस्य	-	सदस्य
मनोविज्ञ	-	सदस्य
दक्ष/विज्ञ (१ जना)	-	सदस्य

सामूहिक छलफलमा दिइनु नमुना प्रश्न वा Topic

उदाहरणका लागि - उजा संकट, गरीबी निवारण, स्वास्थ्य बीमा, खाद्य सुरक्षा, प्रतिभा पलायन जस्ता Topics मध्य कुन एक Topic मात्र दिइनेछ ।