

नेपाली सेना

श्री भर्ना छनौट निर्देशनालय, कार्यरथी विभाग

जंगी अड्डा



प्रा.उ.से. आर्किटेक्ट (खुला) पदको लिखित परीक्षाको

पाठ्यक्रम



२०७८

प्रा.उ.से. आर्किटेक्ट (खुला) पदको पेशा सम्बन्धी विषयको  
लिखित परीक्षा र प्रयोगात्मक परीक्षाको पाठ्यक्रमयोजना

समय:- ४ घण्टा १५ मिनेट

पूर्णाङ्क:- १५०

उत्तीर्णाङ्क:- ६०

यो पाठ्यक्रम नेपाली सेनाको सैनिक प्राविधिक सेवा, सैनिक ईन्जिनियरिङ समुह, सिभिल तथा आर्किटेक्चर उपसमुह अन्तर्गत प्रा.उ.से. आर्किटेक्ट (खुला) पदको उम्मेदवार छनौट परीक्षाको लागि निर्धारण गरिएको हो । लिखित परीक्षामा सरिक हुने उम्मेदवारहरूको पेशा सम्बन्धी विषय र पेशागत विषयको प्रयोगात्मक परीक्षाको लागी निम्न विषयहरूलाई आधार मानि प्रश्नहरू सोधिनेछ ।

- (क) लिखित परीक्षाको माध्यम नेपाली र अंग्रेजी दुवै भाषा हुनेछ ।
- (ख) लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र अर्को चरणको परीक्षामा सम्मिलित गराईनेछ ।
- (ग) प्रश्नपत्र निर्माण गर्दा पाठ्यक्रममा समावेश भएका सबै विषयहरूलाई यथासंभव समिटनेछ ।
- (घ) बस्तुगत र विषयगत संयुक्त रूपमा पूर्णाङ्क र उत्तीर्णाङ्क कायम गरिनेछ ।
- (ङ) बस्तुगत र विषयगत विषयको लिखित परीक्षा एकैपटक वा छुट्टाछुट्टै गरी लिन सकिनेछ ।
- (छ) यो पाठ्यक्रम मिति २०७८/११/२२ गतेबाट लागु हुनेछ ।

लिखित परीक्षा योजना र पाठ्यक्रम

विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली	प्रश्नको संख्या x अंक	समय
पेशा सम्बन्धी	७५	६०	बस्तुगत (Objective)	बहु बैकल्पिक प्रश्न (Objective)	७५ प्रश्न x १ अङ्क = ७५
	७५		विषयगत (Subjective)	छोटोउत्तर लामोउत्तर	९ प्रश्न x ५ अङ्क = ४५ ३ प्रश्न x १० अङ्क = ३०

   

## प्रा.उ.से. आर्किटेक्ट (खुला) पदको लिखित परीक्षाको पाठ्यक्रम

### PART-A

#### OBJECTIVE TYPE

##### **1. Basic Design**

- 1.1. Primary Elements of a design
- 1.2. Design Standards
- 1.3. Basic Principles of composition in design (Axis, Datum, Balance, Harmony, Rhythm, Scale, Unity, Focal Point, Hierarchy and Proportion).
- 1.4. Architectural Rendering development skill in different mediums

##### **2. History of Architecture**

- 2.1. Egyptian architecture
- 2.2. Greek architecture
- 2.3. Roman architecture
- 2.4. Gothic architecture
- 2.5. European Renaissance
- 2.6. Indian Hindu (Vedic to 15th century)
- 2.7. Indian Buddhist (Mauryan to 9th Century AD)
- 2.8. Muslim architecture emphasis on mogul period
- 2.9. Chronology study of different stages of development of Nepalese architecture and their influencing factors
- 2.10. Development of Brick and Brick work
- 2.11. Development of Wood work and Carving
- 2.12. Vernacular Architecture of Terai, Hill and Mountain Regions of Nepal
- 2.13. Romanticism in Architecture and Expressionism in Architecture
- 2.14. Architectural theories of BAUHAUS movement and International Style, Chicago of architecture, ART-NOVEAU Movement, DE STIJL, Amsterdam school
- 2.15. Russian Constructivism
- 2.16. Modern and Post Modern Architecture
- 2.17. Futuristic Architecture
- 2.18. Ideas, theories of architecture and the critical appraisal of concept and practices of great architects of Modern period and their works (Walter Gropius, Frank Lloyd Wright, Mies Van der Rohe, Le Corbusier, Zaha Hadid)
- 2.19. Critical appraisal of concepts and practices of Contemporary architects of Nepal and their works.

### **3. Design Theory**

- 3.1. Theories of Architecture-Thematic, Normative and procedural
- 3.2. I'Art Nouveau and language of form, functionalism
- 3.3. Norberg-Schulz's Theory of architecture
- 3.4. Design Thinking
- 3.5. Concept of Territory
- 3.6. Space and Place
- 3.7. Legal rights of space, ownership and Tenure, Zoning ordinances and building regulations,  
Public good
- 3.8. Measurable and Non measurable aspects
- 3.9. Site analysis and its relations with ecology and surrounding environment

### **4. Building Material**

- 4.1. Building Material available in Nepal
- 4.2. Stone and stone masonry along with selection and uses of stones for architectural and engineering works
- 4.3. Brick and Brick Masonry
- 4.4. Cement and cement mortar, types and uses along with storage of cement
- 4.5. Concrete(PCC/RCC) and concrete admixtures and water proofing
- 4.6. Timber, seasoning of timber, decay and preservation of timber, use of timber in Construction works.
- 4.7. Paints and Varnishes
- 4.8. Insulators(Thermo and sound)
- 4.9. Plasters
- 4.10. Wall and Floor Finishing

### **5. Building Construction**

- 5.1. Site works and setting out
- 5.2. Foundations and their types
- 5.3. Damp Protection
- 5.4. Floor structures
- 5.5. Masonry Wall
- 5.6. Temporary works
- 5.7. Doors and windows
- 5.8. Timber stairs and Timber roofs along with Traditional timber construction
- 5.9. Concrete stairs and concrete floors
- 5.10. Joints in Concrete







- 5.11. Framed buildings
- 5.12. Claddings
- 5.13. False Ceiling
- 5.14. Walls and Partitions
- 5.15. Fire places and chimneys
- 5.16. Insulation: sound and thermal
- 5.17. Fire Prevention in Construction
- 5.18. Sustainable Construction Techniques

## **6. Structure**

- 6.1. Fundamental characteristics of Structure
- 6.2. Geometrical properties of section, axial stress and strain,shear,flexure,torsion,Transverse Bending,columns and Struts.
- 6.3. Structural Elements, Energy Principles,influence line diagrams,three hinged systems,analysis of indeterminate structures
- 6.4. Structural Materials,timber structures,masonry structures,structural steel,structural concrete
- 6.5. Lateral load resisting systems
- 6.6. Earthquake Resistant Design of Buildings
- 6.7. Approximate analysis and design of building structures

## **7. Surveying**

- 7.1. Linear Measurements, leveling, contouring, Theodolite and traversing
- 7.2. Total station

## **8. Building Services**

- 8.1. water supply system(distribution system and House water Plumbing)
- 8.2. Estimation method of water quality, assessment of water quality
- 8.3. sanitary system, sewage collection and treatment, solid waste management
- 8.4. Concepts of Electric system, safety and protection in Electric system, Electrical Installation
- 8.5. Artificial Lighting system

## **9. Building science**

- 9.1. Climatology
- 9.2. Thermal Aspects
- 9.3. Different shelters for Different Climates
- 9.4. Shelters for different Condition
- 9.5. Architectural Lighting
- 9.6. Architectural Acoustics
- 9.7. Energy-Renewable and Non-renewable

## 10. Professional Practice

- 10.1. Professional Ethics
- 10.2. Role of Architects
- 10.3. Hiring A/E consultants
- 10.4. Contracts and agreements
- 10.5. Regulatory Controls

## 11. Auto CAD

- 11.1. Introduction to CAD concepts. Drawing tools, display tools (Pan and Zoom), scale, limits, units snap, Patterns, text, line weight, grid, color, and layer.
- 11.2. Introduction to CAD concepts. Duplication (Single and Arrays), Polygon reshaping, complex polygon generation, object accuracy (join, trim, chamfer, fillet), object transformations, groups, object layers.

### **PART-A** **FOR OBJECTIVE QUESTION**

Units	Objective		Total Marks
	No of Questions	Marks	
<b>1. Basic Design</b>			
1.1	1	1	
1.2	1	1	
1.3	2	2	
1.4	1	1	
<b>2. History of Architecture</b>			
2.1-2.4	2	2	
2.5-2.8	2	2	
2.9-2.12	2	2	
2.13-2.16	2	2	
2.17-2.19	2	2	
<b>3. Design Theory</b>			
3.1-3.2	2	2	
3.3-3.4	2	2	
3.5-3.6	2	2	
3.7-3.8	2	2	
3.9	2	2	
<b>4. Building Material</b>			
4.1-4.2	2	2	
4.3-4.4	2	2	
4.5-4.6	2	2	
4.7-4.8	2	2	
4.9-4.10	2	2	
<b>5. Building Construction</b>			
5.1-5.4	2	2	
5.5-5.8	2	2	

Units	Objective		Total Marks
	No of Questions	Marks	
5.9-5.11	2	2	
5.12-5.14	2	2	
5.15-5.18	2	2	
<b>6. Structure</b>			
6.1-6.2	1	1	<b>5</b>
6.3-6.4	1	1	
6.5	1	1	
6.6	1	1	
6.7	1	1	
<b>7. Surveying</b>			
7.1	3	3	<b>5</b>
7.2	2	2	
<b>8. Building Services</b>			
8.1	1	1	<b>5</b>
8.2	1	1	
8.3	1	1	
8.4	1	1	
8.5	1	1	
<b>9. Building Science</b>			
9.1-9.2	1	1	<b>5</b>
9.3-9.4	1	1	
9.5	1	1	
9.6	1	1	
9.7	1	1	
<b>10. Professional Practice</b>			
10.1	1	1	<b>5</b>
10.2	1	1	
10.3	1	1	
10.4	1	1	
10.5	1	1	
<b>11. Auto Cad</b>			
11.1	3	3	<b>5</b>
11.2	2	2	
<b>Total</b>	<b>75</b>	<b>75</b>	<b>75</b>






## PART-B

### SUBJECTIVE TYPE

#### **1. Introduction to Architecture**

- 1.1. Brief survey from beginning of architecture to present times
- 1.2. Profession of architecture of Nepal-its practice both Public and Private along with Career opportunities
- 1.3. Architecture, built environment and the society
- 1.4. Socio-culture and religious context of architecture
- 1.5. Technology and material context of architecture
- 1.6. Site, City and ecological context of architecture
- 1.7. Interactive relationship with allied professionals such as planners, engineers, landscape architects, interior designers etc.**

#### **2. History of Architecture**

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- 2.3. Roman architecture
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- 3.4. Design Thinking
- 3.5. Concept of Territory
- 3.6. Space and Place
- 3.7. Legal rights of space, ownership and Tenure, Zoning ordinances and building regulations, Public good
- 3.8. Measurable and Non measurable aspects
- 3.9. Site analysis and its relations with ecology and surrounding environment

### **4. Urban and settlement Planning**

- 4.1. Urban/city planning along with planning concepts
- 4.2. Introduction to theoretical models of planning contribution to planning thoughts
- 4.3. Development plans (scope, content, planning process and planning guidelines)
- 4.4. Planning Practice in Nepal
- 4.5. Urban and Rural Planning along with its essential features and urban rural relations.

### **5. Estimating and Costing with Specifications**

- 5.1. Units of Measurement and Payments for various items of Building
- 5.2. Types of Estimate
- 5.3. Analysis of rates/Valuation
- 5.4. Detailed Estimate
- 5.5. Types of specifications and its purpose
- 5.6. Detailed Specifications writing for various items of works, i.e., site works, structural works, finishing works, equipment, Electrical and Mechanical Works

### **6. Architectural Conservation**

- 6.1. Philosophy of Conservation,Authenticity-Materials, form, structure
- 6.2. Principle of Conservation
- 6.3. Cultural Property
- 6.4. Methodologies of Conservation, Materials and Techniques
- 6.5. Historic Buildings (Rehabilitation, Adaptive Use)
- 6.6. Design and Planning Control

**PART-B****FOR SUBJECTIVE QUESTION**

Units	Subjective		Subjective		Total Marks	
	(Short Questions)		(Long Questions)			
	No of Questions	Marks	No of Questions	Marks		
<b>1. Introduction to Architecture</b>						
1.1-1.3	-	-	1	10	15	
1.4-1.7	1	5	-	-		
<b>2. History of Architecture</b>						
2.1-2.8	1	5	-	-	15	
2.9-2.12	1	5	-	-		
2.13-2.19	1	5	-	-		
<b>3. Design Theory</b>						
3.1-3.5	-	-	1	10	15	
3.6-3.9	1	5	-	-		
<b>4. Urban and settlement Planning</b>						
4.1-4.3	1	5	-	-	10	
4.4-4.5	1	5	-	-		
<b>5. Estimating and Costing with Specifications</b>						
5.1-5.3 & 5.5-5.6	1	5	-	-	10	
5.4	1	5	-	-		
<b>6. Architectural Conservation</b>						
6.1-6.6	-	-	1	10	10	
<b>Total</b>	<b>9</b>	<b>45</b>	<b>3</b>	<b>30</b>	<b>75</b>	

   

प्रा.उ.से. आर्किटेक्ट (खुला) पदको पेशागत विषयको

प्रयोगात्मक परिक्षा

समय: १ घण्टा

पूँङ्क: ५०

उत्तीर्णङ्क: २५

क्र.सं.	विषयवस्तु शिर्षक	अंक भार	समय
1	A. Preliminary Drawing skills a) Texture of different materials b) Symbols and Conventions		
	B. Art and Graphics a) Interpenetration of Geometrical Forms i. Prismatic forms ii. Pyramid forms iii. Others (Cylindrical, Sphere)	२५	३० मिनेट
	C. Free Hand Sketching a) Free hand sketching in studio condition i. Simple ii. Complex solid figures in studio condition		
२	Auto CAD Drawing	२५	३० मिनेट

१०८  
समाप्त

२६/११