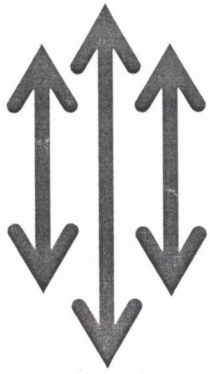
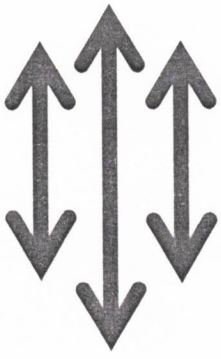
नेपाली सेना

श्री भर्ना छनौट निर्देशनालय, कार्यरथी विभाग,

जंगी अड्डा



प्रा.उ.से. अर्मामेन्ट मेकानिक्स (आन्तरिक) पदको लिखित परीक्षाको पाठ्यक्रम



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नेपाली सेना

प्रा.उ.से. अर्मामेन्ट मेकानिक्स (आन्तरिक) पदको लिखित परीक्षाको पाठ्यक्रम

समय: ४ घण्टा १५ मिनेट

पूर्णाङ्क : १५०
उत्तीर्णाङ्क : ६०

यो पाठ्यक्रम नेपाली सेनाको प्रा.उ.से. अर्मामेन्ट मेकानिक्स (आन्तरिक) पदको उम्मेदवार छनौट परीक्षाको लागि निर्धारण गरिएको हो । लिखित परीक्षामा सरिक हुने उम्मेदवारहरुको पेशा सम्बन्धी विषयलाई आधारमानी प्रश्नहरु सोधिने छ ।

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

लिखित परीक्षाको योजना र पाठ्यक्रम

विषय	पूर्णाङ्क	उत्तिर्णाङ्क	परीक्षा प्रणाली		प्रश्न संख्या अङ्क	समय
पेशा सम्वन्धि	७५	६०	बस्तुगत (Objective)	बहु वैकल्पिक प्रश्न (MCQs)	७५ प्रश्न x १ अङ्क=७५	१ घण्टा १५ मिनेट
	७५		विषयगत (Subjective)	छोटो उत्तर	१५ प्रश्न x २ अंङ्क =३०	३ घण्टा
					५ प्रश्न x ५ अंङ्क =२५	
				लामो उत्तर	२ प्रश्न x १० अङ्क =२०	

प्रा.उ.से. अर्ममेन्ट मेकानिक्स (आन्तरिक) लिखित परीक्षाको पाठ्यक्रम

1 WORK SHOP ADMINISTRATION & MAINTENANCE MANAGEMENT

1.1 Introduction To Management

Definition and importance of Management

1.2 Function Of Management

Planning – nature, types forecasting and Budgeting, Organizing-nature, structure and types, Staffing- importance and need for proper staffing, types of staff, Directing and motivating- nature varying approach to direct, directing and motivating, Controlling – nature, comparing, performance with standards, corrective action

1.3 Industrial Hygiene & Safety

Introduction to industrial hygiene and safety, Cost and liability of industrial hygiene and safety, Thermal pollution its control, effects on human organism and productivity, General accident, prevention and safety in I ndustry

1.4 Spare Parts Management

Survey on spare practices, Reliability and quality of spares, Spare parts procurement procedure, Storage and prevention of spares, Management of absolute spare parts, Inventory control of spare parts, Reconditioning of Equipment and spares

1.5 Maintenance Management

Maintenance objective and function, Maintenance system, Inspection and lubrication

2. ELECTRONICS

2.1 Electronic Circuit

RC and LC Filter, Voltage Multipliers, The Limiter, The DC clamper, The Peak to peak detector, Optoelectronic device, Discrete and Integrated circuit

2.2 Transistor Biasing Circuit

Base Bias, Emitter Feedback Bias, Collector Feedback Bias, Voltage Divider Bias, Emitter Bias

2.3 Amplifier Circuit

The CE Amplifier, The CC Amplifier, The CB Amplifier, H Parameter, Class A and B Power Amplifier, Push Pull Power Amplifier

2.4 JFETs and MOSFETs

Basic Idea, Individual Biasing, Application

2.5 Regulated Power Supply

Introduction, Voltage Feedback regulator, Current Limiting, Power Supply Characteristics, Three Terminal IC Regulator, DC to Converter and Inverter, Switching Regulator, Switch Mode Power Supply, Time Delay Relay Circuit Using UJT and SCR, Automatic battery Charger

2.6 Introduction Of Vacuum Tube

Types, Operation and application

2.7 Digital Electronics

Introduction, Flip- Flops, One bit Memory cell, Clocked SR Flip-Flop, JK Flip Flop, D - Type Flip Flop, Registers, Counters

3. PRINCIPLE OF ARTY EQUIPMENT

3.1 Introduction Of Arty Equipment

History of arty equipment, Classification of arty equipment, Definition of arty weapon, Different between gun /howitzer/Mortar

3.2 Definition Of Arty Words

Ordnance, projectile, obturation , bore ,lands ,caliber ,caliber length ,driving band shot seating extraction recoil cycle , Run up recoil ,commencement of rifling (C of R), effective chamber capacity .shot travel windage equivalent full charge series probable life probable remaining life quarter of life range

3.3 Construction Of Ordnance (Design)

General, Classification on basic of obturation, General description of ordnance, Means of firing, Safety arrangements, Stress in an ordnance when a gun fires, Types of construction,

3.4 General Introduction

Traversing gear, Elevating gear, Recoil system, Breech mechanism, Breech block, Balancing gear, Equilibrator, Mounting, Carriage, Muzzle brake, Quick loading gear, Firing mechanism, Cut of gear

3.5 Term Used In Sighting System

Axis of bore drop axis of trunnion trajectory elocity sight line line of sight angle of sight point of impact vertical plane of sight line of departure angle of departure (of the projectile) angle of projection (of the projectile) zeroing range table azimuth

3.6 Lubricants

3.7 Care and Preservation Of Armament Equipment

3.8 Recent Trends in Artillery Equipment

4. AIR DEFENCE ARTILLERY EQUIPMENT

4.1 14.5mm Four Barrel AA Machine Gun Type 1956

Disassembly and Assy of the Carriage, Chassis frame Disassembly and Assy, Anti air craft computing Sight, Test Fire and Correction of fire effect of the machine Gun, Technical Inspection and Repair, Repair of Machine Gun, Accessories and spare parts

4.2 14.5mm Twin Barrel AA Machine Gun Type 1958

Dismantling and Assemble of the main parts of the gun, Manuel Action of various parts in Firing Revision, Main Parts of the carriage, Dismantling and assembling Middle clamp and Buffer Assy, Lower Carriage, Anti Air Craft Computing Sight Type 1958, Technical Inspection, Repair, Inspection and Calibration of Gun Assy and aiming Line

4.3 37mm Twin AA Automatic Gun Type 1974

Automatic Firing System and Recoil Mechanism, Laying System and Top Carriage, Lower Carriage, Computing Sight, Data Receiver, Amplifier, Operating Mortar, Correcting Circuit, Complete Circuit of The Gun, Technical Inspection of The Gun, Common Malfunction of The Gun, Computing Sight, Tools and Gauges used in the Gun, Data Receiver, Central Power Distribution Box, Dual Amplifier, Operating Motor, Correcting Return Circuit, Electric firing Equipment, Probable Breakdown of servo system and remedial action

4.4 Radar

Fire Control Radar Type-10, Surveillance Radar Type – 513B

4.5 Fire Control Director (FCD) and Power Supply Unit (PSU)

FCD Type – 5M-1A, PSU Generator 30PT-3, PSU Generator 4PF – 1, PSU Generator-285, PSU Generator DB-10

5. FIELD ARTILLERY EQUIPMENT

5.1 Q.F 75/24mm Pack Howitzer

Characteristics, Physical and General Data, Stripping main parts and assembling of howitzer, Breech mechanism, Opening action, Closing action, Firing action, stop and catches, safety arrangement, make safe, causes of misfire, measurement of pin firing, Gun body, Front barrel, Rear barrel, Breech ring, Muzzle brake, Slipper and jacket, Cradle, Recoil system, Buffer cylinder, Recuperate cylinder, hp cylinder, filling and charging, filling in buffer, filling in recuperator, charging hp cylinder, serviceability test:- test no 1, 2, 3, fault

in recoil system –pulling back, Cut off gear, Saddle, Traversing gear, Elevating gear, Equilibrator, Trails (front and rear), Axle, Wheel, Shields, Pre-firing checks, Sight test, Introduction of gauge and repair, Inspection, adjustment and repair, Lubricants

5.2 105mm Pack Howitzer

Technical and physical data, Stripping main parts and assembling of howitzer, Position change: Field position to traveling position, traveling position to field position, field position to antitank position, Shield:- stripping name of parts & assembling, Main components of gun body:-barrel, muzzle recoil brake, slipper, breech ring, Breech mechanism, Operation action of breech mechanism, closing action of breech mechanism, Gun safety, Causes of miss fire, Safety:- safety device, safety arrangement, gun safety, Latch handles, Firing gear:- stripping name of parts assembling and action, Firing plunger assembly, Balancing gear, Cradle (recoil system):- upper recoil system, cylinder block, recuperator buffer, quick release latch, lower recoil system, buffer, recuperates, cut off gear, Saddle, Traversing gear, Carriage, Saddle support, stub-axle supporting arm, wheel, brakes, Faults causes and remedies of recoil system, Servicing the recoil system, Pre-firing check, Checking methods of firing pin, Sight test, Gauge and tools, Inspection adjustment and repair, Lubricant, Aiming posts and servicing stores, Spanners wrenches

5.3 OML 120mm Brand Mortar

General and physical data, Stripping main parts and assembling of mortar, Position change from travelling to firing, Barrel and towing ring, Firing mechanism , Firing action:- control, spring withdrawal, gravity, causes of misfire, Applied safety, towing ring Assy:- stripping name of parts and function , Mount Assy bipod:- introduction stripping name of parts function and assembling , Aiming control device:- cross leveling gear introduction, elevating gear stripping name of parts assembling and action, traversing gear stripping name of parts assembling and action, Shock absorber Assy, Base plate Assy and base plate clamping collar, Carriage and travelling shield Assy, Sight test, Gauge and tools used for 120 mm Brand Mortar, Inspection procedure of barrel, Checking procedure of pin firing, Inspection adjustment and repair, Pre-firing checks, Trouble shooting

5.4 105/37 mm Light Field Gun (LFG)

General and Physical Data, Characteristics, Ordnance, Operation of Breech Block, Principle parts of carriage and inspection, Cut off Gear, Recoil System, Faults and Remedies, Dial Sight 104 A

माथि उल्लेखित पाठ्यक्रमका एकाइहरुबाट सोधिने प्रश्नहरुको संख्या निम्नानुसार हुनेछ

S.N	Topics	Objective Question and Marks	Questions and Marks			Remarks
			Very Short Questions and Marks	Short Questions and Marks	Long Question and Marks	
1	Unit 1	15 x 1 = 15	3 x 2 = 6	1 x 5 = 5		
2	Unit 2	15 x 1 = 15	3 x 2 = 6	1 x 5 = 5		
3	Unit 3	15 x 1 = 15	3 x 2 = 6	1 x 5 = 5		
4	Unit 4	15 x 1 = 15	3 x 2 = 6	1 x 5 = 5	1 x 10 = 10	
5	Unit 5	15 x 1 = 15	3 x 2 = 6	1 x 5 = 5	1 x 10 = 10	
Total		**75 x 1 = 75**	**15 x 2 = 30**	**5 x 5 = 25**	**2 x 10 = 20**	

प्रा.उ.से. अर्मामेन्ट मेकानिक्स (आन्तरिक) पदको प्रयोगात्मक परिक्षाको पाठ्यक्रम

समय :९० मिनेट

पूर्णाङ्कः ५०
उत्तीर्णाङ्कः २५

S.N	Topic	Marks	Times (Minutes)
1	Identification of Components of Various Arty Equipment	10	15
2	Identification and Application of SMTs (Special Maintenance Tools) & Gauges of Various Arty Equipment	10	20
3	Inspection and Examination of Arty Equipment	10	20
4	Location, Relation and Function ofComponents of Various Arty Equipment	10	20
5	Workshop Administration	10	15
	Total	**50**	**90**

1. **Identification and Components of Various Arty Equipment**
   परीक्षार्थीले Layout गरी राखिएका बिभिन्न Arty Equipment का Parts को Technical नाम लेख्नु पर्ने हुन्छ र दिइएको Parts कहाकहा प्रयोग हून्छ भन्ने समेत खुलाउनु पर्नेछ। यसमा ५ प्रकारका सामानहरु देखाइने छ र प्रत्येक नाम र प्रयोग सहि भएमा २ अंक प्रदान गरिनेछ ।
2. **Identification and Application of SMTs (Special Maintenance Tools) & Gauges of Various Arty Equipment**
   परीक्षार्थीले Layout गरी राखिएका १० वटा SMTs तथा Gauges को नाम र प्रयोग गर्ने विधि भन्नु पर्नेछ । प्रत्येक नाम र प्रयोग सहि भएमा १ अङ्कको दरले Marks प्रदान गरिनेछ ।
3. **Inspection and Examination of Arty Equipment**
   यसमा परिक्षार्थीलाई कुनै एउटा Arty Equipment को Inspection & Examination गर्न लगाईने छ । जसमा ५ वटा Fault राखिने छ सहि Fault finding को ५ Marks र सहि Inspection Procedure को ५ Mark गरी जममा १० को हुने छ ।
4. **Location, Relation and Function of Components of Various Arty Equipment** परिक्षार्थीले कुनै एउटा Particular Arty Equipment को Part को Location, Relation र Function बताउनु पर्ने छ । जस मधये Location को लागी Mark 2, Relation को लागी Mark र 3Function को लागी Marks 10 गरी जम्मा 5Marks दिईनेछ ।
5. **Workshop Administration**
   परिक्षार्थीलाई Workshop Administration सम्बन्धमा १० वटा Viva प्रश्न सोधिनेछ । प्रत्येक सही उत्तरको अंक १ प्रदान गरिनेछ ।

The End