

सूर्यवर्नायक नगरपालिका  
स्वास्थ्य सेवा, मे.ल्या.टे.समूह, ज.मे.ल्या.टे. उपसमूह, पाचौं तह, मेडिकल ल्याब टेक्निसियन पदको प्रतियोगितात्मक  
परीक्षाको पाठ्यक्रम

पाठ्यक्रमको रूपरेखा :- यस पाठ्यक्रमको आधारमा निम्नानुसार चरणमा परीक्षा लिइने छ :

प्रथम चरण :-	लिखित परीक्षा	पूर्णाङ्क :- १००
द्वितीय चरण :-	अन्तर्वार्ता	पूर्णाङ्क :- २०

प्रथम चरण – लिखित परीक्षा योजना (Written Examination Scheme)

पत्र/विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या X अङ्कभार	समय
सेवा सम्बन्धी	१००	४०	वस्तुगत बहुवैकल्पिक (Multiple Choice)	५० प्रश्न X २अङ्क = १००	४५ मिनेट

द्वितीय चरण

विषय	पूर्णाङ्क	परीक्षा प्रणाली
अन्तर्वार्ता	२०	मौखिक

**द्रष्टव्य :**

१. यो पाठ्यक्रम योजनालाई प्रथम चरण (लिखित परीक्षा) तथा द्वितीय चरण (अन्तर्वार्ता) गरी दुई भागमा विभाजन गरिएको छ ।
२. प्रश्नपत्र अंग्रेजी भाषामा हुनेछ ।
३. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुनेछ ।
४. वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर वापत अङ्क कट्टा गरिने छैन ।
५. परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
६. परीक्षामा यथासम्भव सबै इकाईबाट प्रश्न सोधिने छ ।
७. नगरपालिकाबाट संचालन हुने परीक्षामा परीक्षार्थीले मोबाइल वा यस्तै प्रकारका विद्युतीय उपकरण परीक्षा हलमा लैजान पाइने छैन ।
८. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम तथा नीतिहरू परीक्षाका मिति भन्दा ३ महिना अगाडि (संशोधन भएको वा संशोधन भई हटाईएको वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
९. लिखित परीक्षामा छनौट भएका उम्मेदवारहरूलाई मात्र अन्तर्वार्तामा सम्मिलित गराइनेछ ।
१०. लिखित परीक्षा र अन्तर्वार्ताको कुल अङ्क योगका आधारमा अन्तिम परीक्षाफल प्रकाशित गरिनेछ ।

### विषय- सेवा सम्बन्धी

#### 1. Haematology

- 1.1 Cleaning of glasswares and safety precaution in the laboratory
- 1.2 Collection and preservation of different samples for the laboratory
- 1.3 Preparation of chemicals and different stains for the Hematological tests
- 1.4 Quality control in the laboratory
- 1.5 Formation and development of Erythrocytes, Leucocytes, thrombocytes
- 1.6 Principle and clinical procedure for:
  - 1.6.1 Hemoglobin estimation and it's standard curve calibration
  - 1.6.2 Total count of W.B.C., R.B.C., Platelets and reticulocytes
  - 1.6.3 E.S.R., B.T., C.T., and RBC indices

- 1.6.4 Coomb's tests
- 1.6.5 Blood banking & Transfusion
- 1.6.6 Coagulation profile (mechanism, disorder & investigations)
- 1.6.7 LE cell preparation
- 1.6.8 Tissue parasite
- 1.6.9 Absolutes cell count
- 1.6.10 Osmotic fragility test
- 1.6.11 G6PD Test

## 2. MICROBIOLOGY

- 2.1 Bacteriology
  - 2.1.1 Classification of medically important bacteria
  - 2.1.2 Characteristics of Microorganism: Prokaryotes, Eukaryotes, Viruses
  - 2.1.3 Different methods of sterilization and disinfections
  - 2.1.4 Preparation of different media and ingredients uses and interpretation
  - 2.1.5 Preparation of chemicals and stains
  - 2.1.6 Cultural procedure of different samples aerobically and anaerobically
  - 2.1.7 Identification of bacteria and confirmative tests serologically and bio-chemically
  - 2.1.8 Different staining methods of bacteria and their principles
  - 2.1.9 T.B. Bacteriology and skin scraping for A.F.B
  - 2.1.10 Quality control in Bacteriology Laboratory
  - 2.1.11 The universal precaution in microbiology laboratory and safe west disposal of infected materials
  - 2.1.12 Bacterial growth factor
  - 2.1.13 Culture media and their types
  - 2.1.14 Safety in Microbiology Laboratory
- 2.2 Virology
  - 2.2.1 General properties of virus comparing with bacteria, terminology used in virology and basic laboratory procedure used in the diagnosis of viral disease
  - 2.2.2 Mode of transmission of virus
- 2.3 Parasitology
  - 2.3.1 Classification of medically important:
    - 2.3.1.1 Protozoal parasite
    - 2.3.1.2 Helminthic parasites
    - 2.3.1.3 blood parasites
    - 2.3.1.4 Semen analysis
    - 2.3.1.5 Occult blood test
  - 2.3.2 Methods of identification of different parasites from stool samples by:
    - 2.3.2.1 Wet preparation
    - 2.3.2.2 Concentration methods
    - 2.3.2.3 Cultural methods
    - 2.3.2.4 Iodine preparation
  - 2.3.3 Method of identification of blood parasites Routine Examination and special test in Urine
  - 2.3.4 Principle and procedure of urine pregnancy test
- 2.4 Mycology
  - 2.4.1 Terminologies used in mycology sample collection for fungal infection (skin scarping, nails and hair) and method of wet preparation
- 2.5 Immunology

- 2.5.1 Principle and procedure for the estimation of:
  - 2.5.1.1 V.D.R.L., (RPR)
  - 2.5.1.2 A.S.O.
  - 2.5.1.3 C.R.P.
  - 2.5.1.4 Rheumatoid factor
  - 2.5.1.5 ELISA Test
  - 2.5.1.6 Blood Grouping and Rh typing
  - 2.5.1.7 H. Pylori

### 3. **Biochemistry**

- 3.1 Define of mol. wt and eq. wt
- 3.2 Preparation of normal and molar solution
- 3.3 Colorimeter/spectrophotometer
- 3.4 Principle and procedure of different methods for the estimation of biochemical tests
  - 3.4.1 Sugar, Urea, Creatinine, Uric Acid, LFT Amylase
  - 3.4.2 Cavity fluids examination
  - 3.4.3 C.S.F examination
  - 3.4.4 24 hours Urine Protein
- 3.5 Simple theory of lights waves, function of filters Beers and Lamberts law, absorbance and percent transmission
- 3.6 The lab hazards and precautions to be taken while working in clinical Biochemistry lab

### 4. **Anatomy and physiology**

- 4.1 Important anatomical terminologies
- 4.2 The composition and function of blood
- 4.3 The structure and functions of alimentary canal, digestive system, circulatory system, urinary system & respiratory system

### 5. **Histology/Cytology**

- 5.1 Different types of fixatives and their uses
- 5.2 Methods of decalcification
- 5.3 Methods of processing of tissues to prepare paraffin block tissue
- 5.4 Methods of cutting section from the paraffin block tissue and staining Procedure
- 5.5 Papanicolaou stain ( Pap. Stain.)
- 5.6 Principle of different types of Microtome