

# त्रि.वि. सेवा आयोग

प्रशासन सेवा, स्वास्थ्य समूहका सहायक स्तरका विभिन्न पदहरूको

प्रयोगात्मक परीक्षाको पाठ्यक्रम

क्र.सं.	पद	समूह	तह/श्रेणी
१.	स्टाफ नर्स	स्वास्थ्य	सहायक प्रथम
२.	मुख्य स्वास्थ्य सहायक (परफ्युजनिष्ट)	स्वास्थ्य	सहायक प्रथम
३.	मुख्य स्वास्थ्य सहायक (प्याथोलोजी)	स्वास्थ्य	सहायक प्रथम
४.	मुख्य स्वास्थ्य सहायक (फार्मॅसी)	स्वास्थ्य	सहायक प्रथम
५.	मुख्य स्वास्थ्य सहायक (फिजियोथेरापी)	स्वास्थ्य	सहायक प्रथम
६.	मुख्य स्वास्थ्य सहायक (डाइट एण्ड न्युट्रिसन)	स्वास्थ्य	सहायक प्रथम
७.	मुख्य स्वास्थ्य सहायक (अप्टोमेट्री)	स्वास्थ्य	सहायक प्रथम
८.	मुख्य स्वास्थ्य सहायक (रेडियोलोजी)	स्वास्थ्य	सहायक प्रथम
९.	मुख्य स्वास्थ्य सहायक (इ.सि.जी.)	स्वास्थ्य	सहायक प्रथम
१०.	मुख्य स्वास्थ्य सहायक (डेण्टल हाईजेनिष्ट)	स्वास्थ्य	सहायक प्रथम
११.	मुख्य स्वास्थ्य सहायक (अडियोमेट्रिक्स)	स्वास्थ्य	सहायक प्रथम
१२.	मुख्य स्वास्थ्य सहायक (एनेस्थेसिया)	स्वास्थ्य	सहायक प्रथम
१३.	स्वास्थ्य सहायक (इ.सि.जी.)	स्वास्थ्य	सहायक द्वितीय
१४.	स्वास्थ्य सहायक (क्लिनिकल)	स्वास्थ्य	सहायक द्वितीय

त्रिभुवन विश्वविद्यालय  
सेवा आयोग

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : स्टाफ नर्स

समूह : स्वास्थ्य

तह/श्रेणी : सहायक प्रथम

पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५

समय : १ घण्टा

S.N.	Topic	Marks	Remarks
1	I.V. Cannulation	5	
2	Foley's catheterization	5	
3	Wound dressing	5	
4	Oral administration of medicine	5	
5	Admission procedure	5	
6	Oral suctioning	5	
<b>Total marks</b>		<b>30</b>	

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (परफ्युजनिष्ट)  
पूर्णाङ्क : ३०

समूह : स्वास्थ्य  
उत्तीर्णाङ्क : १५

तह/श्रेणी : सहायक प्रथम  
समय : १ घण्टा

Objective:

To assess the candidate's competency in basic cardiopulmonary bypass procedures, preparing and maintaining perfusion equipment, performing essential perfusion calculations, recognizing emergencies, and maintaining intraoperative safety

### Specification Chart

S.No.	Course Content (Activities)	No.of Question	Marks
1.	Identification & Assembly of CPB Components	1	5
2.	Priming Procedure & Safety Checklist	1	5
3.	Basic Perfusion Calculations	1	5
4.	Monitoring and alarm recognition During CPB	1	5
5.	Instrument & Cardioplegia Preparation	1	5
6.	Spotters (Integrated Applied Viva)	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

## 1. Identification & Assembly of CPB Components

### A. Heart-Lung Machine Console

- Identification of arterial pump head (roller)
- RPM display & flow calculation concept
- Power supply & battery backup

### B. Oxygenator System

- Membrane oxygenator identification
- Gas inlet & outlet ports
- Heat exchanger connection
- Venous reservoir structure and level markings

### C. Tubing Circuit

- Arterial line
- Venous line
- Recirculation line
- Suction line
- Vent line
- Sampling ports

### D. Cannulae

- Arterial cannula (purpose & insertion site concept)
- Venous cannula (single-stage vs two-stage)
- Pediatric vs adult size concept (basic idea)

### E. Pre-Bypass Checklist

- Correct line connections
- Tightness of connectors
- Air removal from circuit
- Correct direction of arterial filter
- Proper placement of bubble detector

## 2. Priming Procedure & Safety Checklist

### A. Priming Solutions

- Types of colloidal and crystalloid prime
- Mannitol
- Sodium bicarbonate
- Heparin

### B. Prime Volume

- Adult vs pediatric prime volume concept
- Hemodilution awareness

### C. De-airing Procedure

- Filling venous reservoir
- Recirculation de-airing
- Removal of microbubbles

### D. Anticoagulation Protocol

- Heparin dose (300–400 IU/kg concept)
- Target ACT (>480 sec)
- ACT testing timing
- Protamine reversal (basic dose concept)

### E. Pre-Bypass Safety Checklist

- Oxygen supply check

- Gas blender functioning
- Heater-cooler temperature set
- Emergency hand crank availability
- Adequate reservoir level

### 3. Basic Perfusion Calculations

#### A. Body Surface Area (BSA)

- Mosteller formula

#### B. Pump Flow Calculation

- Indexed flow (2.2–2.4 L/min/m<sup>2</sup>)
- Total flow calculation from BSA

#### C. Mean Arterial Pressure (MAP)

- MAP formula
- Target perfusion pressure during CPB (50–70 mmHg concept)

#### D. Hematocrit Estimation

- Dilution principle
- Effect of priming volume on HCT

#### E. Urine Output

- Normal intraoperative urine output

#### F. Basic Drug Calculations

- Heparin total dose
- Protamine reversal dose

### 4. Monitoring and Alarm Recognition During CPB

#### A. Hemodynamic Monitoring

- Arterial pressure monitoring
- Venous pressure monitoring
- Line pressure concept
- Adequate flow assessment
- Hypotension

#### B. Temperature Monitoring

- Core temperature
- Peripheral temperature
- Hypothermia concept (mild/moderate)

#### C. Laboratory Monitoring

- ACT
- Basic concept of alpha and pH-stat gas interpretation

#### D. Reservoir Monitoring

- Low level danger
- Air entry risk

#### E. Alarm Recognition

- Low arterial pressure alarm
- High line pressure alarm
- Air bubble alarm
- Low reservoir level alarm
- Gas failure alarm

#### F. Recognition of Inadequate Perfusion

- Low urine output

- Rising lactate

## 5. Instrument, Records & Cardioplegia Preparation

### A. Cardioplegia System

- Identification of cardioplegia line
- Blood vs crystalloid cardioplegia (basic concept)
- Potassium role in cardioplegia
- Temperature control of cardioplegia

### B. Myocardial Protection System

- Types
- Doses

### C. Sterility & CSSD Principles

- Autoclave (moist heat sterilization)
- EO sterilization concept
- Sterility indicator strip identification
- Handling of sterile equipment

### †Spotters

(Identification + Function + Basic Clinical Relevance)

#### A. Equipment Spotters

- Roller pump head
- Oxygenator
- Arterial filter
- Venous cannula
- Arterial cannula
- ACT cartridge
- Temperature probe
- Bubble detector

#### B. Drug Spotters

- Heparin
- Protamine
- Mannitol
- Sodium bicarbonate
- Potassium chloride
- Magnesium Sulphate

### **Evaluation Criteria:**

1. Technical Competency & Procedural Accuracy
2. Monitoring Awareness & Clinical Recognition Ability
3. Professional Conduct, Safety & Infection Control

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (प्याथोलोजी)  
पूर्णाङ्क : ३०

समूह : स्वास्थ्य  
समय : १ घण्टा

तह/श्रेणी : सहायक प्रथम

Objective: .....To ensure candidate has basic knowledge in different aspects of technical expertise, as per syllabus.

### Specification Chart

S.No.	Course Content (Activities)	No.of Question	Marks
1.	Perform WBC count and write down the procedure and interpretation.	1	5
2.	Perform ESR testing and write down the procedure and interpretations.	1	5
3.	Perform H&E staining on the given section and write down the procedure and components of the stain.	1	5
4.	Perform Gram staining on the given sample and write the interpretation.	1	5
5.	Perform direct Coomb's test on the given sample and interpret the findings.	1	5
6.	Perform urea testing on the given sample and interpret the results.	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

Evaluation Criteria:

1. Knowledge of tests
2. Performance of procedure and Interpretation of test

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (फार्मसी)

समूह : स्वास्थ्य

तह/श्रेणी : सहायक प्रथम

पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५

समय : १ घण्टा

Objective: To assess the practical ability of the pharmacy candidates.

Practical exams of pharmacists or pharmacy assistants in hospital pharmacy need to test their ability in core competency, especially in extemporaneous preparations, and simple visible tests of medicines. It requires 3 hours, and the examiner should be given some flexibility based on availability of raw materials and infrastructure of the laboratory.

The examiner should be instructed to give at least 3 assignments to each candidate, and make sure the 3 assignments belong to different formulation types. In case a candidate cannot remember the formula of a product, the candidate should be given the formula, but 10 % marks should be deducted from its score. Each assignment assigned carries 10 marks.

### List of experiments for hospital pharmacy assistants (chief health assistants)

No.	Formulation	Typical Amount	Brief Answer Guide (Ingredients / Preparation Hints)
1	Calamine Lotion	100 mL	Calamine 15 g + Zinc oxide 5 g + Bentonite 3 g + Glycerin 5 mL + Lime water q.s.; disperse solids uniformly in water.
2	Whitfield's Ointment	50 g	Benzoic acid 6 g + Salicylic acid 3 g + Ointment base q.s.; levigate powders into base for smooth ointment.
3	Zinc Oxide Ointment	50 g	Zinc oxide 20 g + Ointment base q.s.; triturate for even distribution.
4	Salicylic Acid Ointment	50 g	Salicylic acid 2–5 g + Ointment base q.s.; levigate properly.
5	Urea Cream	50 g	Urea 10–20 g + Cream base q.s.; mix until homogeneous.
6	Potassium Citrate Mixture	200 mL	Potassium citrate 30 g + Syrup 20 mL + Water q.s.; ensure complete dissolution.
7	Magnesium Trisilicate Mixture	200 mL	Magnesium trisilicate 25 g + Sodium bicarbonate 5 g + Peppermint water q.s.; shake before dispensing.
8	Compound Sodium Bicarbonate Mouthwash	100 mL	Sodium bicarbonate 1 g + Glycerin 5 mL + Peppermint water q.s.; stir until clear.
9	Boric Acid Eye Wash	100 mL	Boric acid 2 g + Purified water q.s.; prepare as sterile isotonic solution.
10	Glycerin Suppositories	12 suppositories	Glycerin 70 g + Sodium stearate 5 g + Water q.s.; melt base, pour into molds, cool.
11	Menthol Ointment	50 g	Menthol 1–2 g + Ointment base q.s.; mix until uniform.
12	Camphor Liniment	50 mL	Camphor 5 g + Olive oil / Liquid paraffin q.s.; dissolve camphor first, then mix.

<b>No. Formulation</b>	<b>Typical Amount</b>	<b>Brief Answer Guide (Ingredients / Preparation Hints)</b>
13 Starch Mucilage	100 mL	Starch 5 g + Water q.s.; heat and stir to avoid lumps.
14 Lassar's Paste	50 g	Zinc oxide 25 g + Salicylic acid 2 g + Starch 25 g + Soft paraffin q.s.; triturate well.
15 Calamine Lotion (repeat)	100 mL	Same as No.1; emphasize proper dispersion of solids.
16 Zinc Oxide Ointment (repeat)	50 g	Same as No.3; ensure smooth ointment without lumps.
17 Salicylic Acid Ointment (repeat)	50 g	Same as No.4; proper levigation important.
18 Urea Cream (repeat)	50 g	Same as No.5; uniform mixing required.
19 Boric Acid Eye Wash (repeat)	100 mL	Same as No.9; maintain sterility.
Compound Sodium Bicarbonate Mouthwash (repeat)	100 mL	Same as No.8; stir until clear and homogeneous.

Evaluation Criteria:

1. Formula 10 %
2. Preparation 70 %
3. Labelling 10 %
4. Patient instructions 10 %

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (फिजियोथेरापी) समूह : स्वास्थ्य  
पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५ समय : १ घण्टा

तह/श्रेणी : सहायक प्रथम

### Practical Questions for Head Health Assistant (Physiotherapy)

#### 1. Stroke (Cerebrovascular Accident)

A 60-year-old male with acute ischemic stroke (left MCA territory) presents on Day 3 with right hemiparesis, initial flaccidity, gait instability, and Barthel Index 8/20. Medically stable for rehab. (Time: 20-30 min; demonstrate where possible).

1. What comprehensive physiotherapy assessment will you perform? (8 marks)
2. Which muscle tone, reflex, and functional tests will you check, and how? (6 marks)
3. Plan a 4-week physiotherapy treatment program with progressions. (10 marks)
4. Explain and demonstrate gait training and 3 balance exercises for this patient. (6 marks)

#### 2. Chronic Obstructive Pulmonary Disease

A 55-year-old chronic smoker presents with breathlessness after walking 300-500m, diagnosed with moderate COPD (FEV1 50-80% predicted, mMRC grade 2). Stable outpatient, no acute exacerbation. (Time: 20-30 min; demonstrate techniques where possible).

1. What comprehensive clinical physiotherapy assessment will you perform? (8 marks)
2. Explain the chest physiotherapy techniques you will use. (6 marks)
3. Describe breathing exercises useful for this COPD patient. (8 marks)
4. Explain the pulmonary rehabilitation program structure. (8 marks)

#### 3. Anterior Cruciate Ligament Injury

A 25-year-old football player underwent arthroscopic ACL reconstruction 1 week ago. Cleared for weight-bearing as tolerated with crutches. (Time: 20-30 min; demonstrate exercises where possible).

1. What are the key goals of physiotherapy across rehabilitation phases post-ACL reconstruction? (6 marks)
2. Describe the rehabilitation protocol for different phases (0-12 weeks+). (10 marks)
3. Explain quadriceps strengthening and proprioception training exercises. (8 marks)
4. What precautions should be taken during rehabilitation? (6 marks)

#### 4. Cerebral Palsy in Child

A 5-year-old boy with spastic diplegic cerebral palsy presents with scissoring gait, tight hamstrings/hip adductors, and delayed milestones (Time: 20-30 min; demonstrate where possible).

1. What physiotherapy assessment methods will you use for this pediatric patient? (8 marks)
2. Describe how you will evaluate motor developmental milestones. (6 marks)
3. Explain neurodevelopmental treatment (NDT) techniques for this child. (8 marks)
4. Plan therapeutic exercises for improving posture and gait. (8 marks)

#### 5. Osteoarthritis of Knee

A 65-year-old female complains of knee pain, stiffness, and difficulty climbing stairs due to Knee Osteoarthritis.

### Questions:

1. What clinical examination and special tests will you perform as a physiotherapist? (8 marks)
2. Explain the role of therapeutic modalities (IFT, ultrasound, heat therapy).(8 marks)
3. Describe quadriceps strengthening exercises. (6 marks)
4. Explain patient education and activity modification. (6 marks)

### **6. Bell's Palsy**

A patient presents with unilateral facial muscle weakness due to Bell's Palsy.

Questions:

1. Describe the physiotherapy assessment of facial muscles. (10 marks)
2. Explain facial muscle re-education exercises. (6 marks)
3. What electrotherapy modalities can be used? (8 marks)
4. Explain home exercise program and precautions. (6 marks)

### **7. Spinal Cord Injury**

A patient with traumatic Spinal Cord Injury at T12 level is admitted for rehabilitation.

Questions:

1. Explain the initial physiotherapy assessment. (6 marks)
2. Describe bed mobility and transfer training. (8 marks)
3. Plan a strengthening and wheelchair mobility program. (6 marks)
4. Explain prevention of complications (pressure sores, contractures). (8 marks)

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (डाइट एण्ड न्युट्रिसन) समूह : स्वास्थ्य तह/श्रेणी : सहायक प्रथम  
पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५ समय : १ घण्टा

Objective: To assess the candidate's competency in:

1. Nutritional assessment
2. Dietary planning and prescription for various diseases
3. Identification of food sources and deficiencies
4. Counseling and professional ethics
5. Food preservation and identification of adulteration.

### Specification Chart

S.No.	Course Content (Activities)	No. of Question	Marks
1.	ANTHROPOMETRY AND DIETARY RECALL	1	5
2.	CALCULATION (ENERGY/NUTRIENT)	1	5
3.	THERAPEUTIC DIET PLANNING (CASE)	1	5
4.	FOOD SPOTTERS AND ADULTERATION TEST	1	5
5.	NUTRITION SUPPORT (TUBE FEEDING/TPN)	1	5
6.	DIET COUNSELLING.	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

Evaluation Criteria:

1. Food Safety and Hygiene
2. Nutritional Knowledge and Application
3. Technical Skills

**Tribhuvan University**  
**Office of the Service Commission**

**Practical Examination Syllabus for Optometry Head Assistant**

**Full Marks:** 30

**Pass Marks:** 15

**Time:** 1 Hour

**Note:** Out of the multiple sample tasks/activities listed for each station, only one task per station will be selected for the practical exam questions. This ensures focused assessment while covering core competencies.

Station No.	Core Competency	Purpose	Course Content/ Activities	Time (min)	Marks	Assessment Method
1	Basic Ocular Sciences & Applied Anatomy	Assess understanding of basic ocular structure and physiology and its clinical relevance	<ul style="list-style-type: none"> <li>Identify parts of eyeball &amp; adnexa on model/chart</li> <li>Label visual pathway diagram</li> <li>Demonstrate pupillary light reflex</li> <li>Explain tear film layers &amp; aqueous humor circulation</li> </ul>	10	5	OSPE (Spotters + Viva + Demonstration Checklist)
2	Ocular Pharmacology & Microbiology	Evaluate knowledge of commonly used ophthalmic drugs and infection control principles	<ul style="list-style-type: none"> <li>Identify drug vials (antibiotics, steroids, mydriatics, antiglaucoma)</li> <li>Demonstrate eye drop instillation technique</li> <li>Identify microorganism images</li> <li>State indication &amp; contraindication of drugs</li> </ul>	10	5	OSPE (Drug Identification + Procedure Checklist + Viva)
3	Clinical Examination & Diagnostic Procedures	Assess ability to perform basic optometric clinical tests accurately	<ul style="list-style-type: none"> <li>Measure visual acuity (distance/near)</li> <li>Demonstrate retinoscopy steps</li> <li>Perform subjective refraction (steps)</li> <li>Measure IOP</li> <li>Perform Schirmer test / keratometry</li> </ul>	10	5	OSCE (Observed Structured Clinical Examination with Checklist)
4	Ocular & Systemic Disease Recognition	Evaluate ability to recognize common ocular and systemic eye conditions and decide referral	<ul style="list-style-type: none"> <li>Identify clinical photographs (cataract, glaucoma, conjunctivitis, corneal ulcer)</li> <li>Case-based discussion (diabetes &amp; hypertension effects on eye)</li> <li>Identify emergency conditions needing referral</li> </ul>	10	5	OSPE (Image-Based Spotters + Case Scenario Viva)

5	Optics, Refraction & Binocular Vision	Assess competency in refraction, prescription writing, and binocular vision assessment	<ul style="list-style-type: none"> <li>Identify refractive errors</li> <li>Write spectacle prescription</li> <li>Verify lens power (lensometer)</li> <li>Perform cover test</li> <li>Assess accommodation/convergence</li> </ul>	10	5	OSCE (Practical Performance + Prescription Evaluation Rubric)
6	Contact Lens, Low Vision & Community Eye Health	Assess practical knowledge in dispensing, rehabilitation and community screening	<ul style="list-style-type: none"> <li>Identify types of contact lenses</li> <li>Explain CL disinfection steps</li> <li>Select frame &amp; lens material</li> <li>Identify low vision devices</li> <li>Outline steps of school screening</li> <li>Describe community eye strategies (per World Health Organization &amp; International Agency for the Prevention of Blindness)</li> </ul>	10	5	OSPE (Spotters + Counseling Simulation + Viva)

**Overall Examiner Guidelines:**

- Each station = 5 marks, total = 30 marks.
- Time per station = 10 minutes.
- Only one task per station will be assigned during the examination.
- Use simulated patients, standardized patients, volunteers, anatomical models, diagnostic instruments, charts, or clinical photographs as appropriate.
- Partial marks can be awarded for incomplete or partially correct tasks.
- A standardized checklist and marking rubric must be used by all examiners to ensure objectivity and uniformity.
- Each station shall include a brief viva component to assess reasoning, understanding, and decision-making ability.
- Infection control and patient safety principles must be observed during all clinical demonstrations.
- An Examiner Comments Section must be completed for transparency and documentation, particularly for borderline candidates.
- Failure to attempt a station shall result in a score of zero for that station.
- The final result shall be determined based on the cumulative marks obtained across all six stations.

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (रिडियोलोजी)  
पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५

समूह : स्वास्थ्य  
समय : १ घण्टा

तह/श्रेणी : सहायक प्रथम

Objective: The candidate should be able to perform all routine and supplementary radiographic projections. They should also be able to perform post processing of CR and DR images before printing or sending to PACS

### Specification Chart

S.No.	Course Content (Activities)	No.of Question	Marks
1.	Positioning for Radiography of skull/PNS/Mastoids	1	5
2.	Positioning for Radiography of Chest	1	5
3.	Positioning for Radiography of any part of upper limb	1	5
4.	Positioning for Radiography of any part of lower limb	1	5
5.	Positioning for Radiography of any part vertebral column	1	5
6.	Post processing of CR or DR image	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

Evaluation Criteria:

1. Knowledge and skill about the given radiographic projection and exposure factors
2. Patient preparation before radiography and attitude towards the patient
3. Knowledge about CR and DR image and handling of the respective equipment

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (इ.सि.जी)  
पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५

समूह : स्वास्थ्य  
समय : १ घण्टा

तह/श्रेणी : सहायक प्रथम

- 1) Objective: To assess the candidate's competency in:
- 2) Preparation of patient and correct placement of ECG electrodes
- 3) Recording a standard 12 lead ECG and special lead placements
- 4) Identification of common ECG rhythms and abnormalities
- 5) Handling, calibration, and troubleshooting of ECG instruments
- 6) Recognition and correction of ECG artifacts
- 7) Professional conduct, patient communication, and ethical practice during ECG recording

### Specification Chart

S.No.	Course Content (Activities)	No.of Question	Marks
1.	Patient preparation and 12 lead ECG recording	1	5
2.	Special lead placement (Right sided, Posterior leads, Lewis leads, Fontaine leads)	1	5
3.	ECG interpretation spotters	1	5
4.	Identification of ECG artifacts and troubleshooting	1	5
5.	ECG instrument handling	1	5
6.	Patient counselling, consent, and reporting of ECG	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

### Evaluation Criteria:

1. Patient safety and hygiene
2. Accuracy of lead placement and ECG recording
3. Ability to identify ECG findings

त्रिभुवन विश्वविद्यालय  
सेवा आयोग

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (डेंटल हाइजेनिष्ट)      समूह : स्वास्थ्य      तह/श्रेणी : सहायक प्रथम  
पूर्णाङ्क : ३०      उत्तीर्णाङ्क : १५      समय : १ घण्टा

Objective: To evaluate candidates competency, knowledge and skills in providing patient care.

### Specification Chart

S.No.	Course Content (Activities)	No of Question	Marks
1.	Identify dental materials (OSCE)	1	5
2.	Identify an instrument (OSCE)	1	5
3.	Demonstrate brushing and flossing techniques	1	5
4.	Oral examination	1	5
5.	Perform IOPA Xray	1	5
6.	Perform scaling of one arch ( 15 minutes)	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

Evaluation Criteria:

1. Clinical competence
2. Patient management
3. Knowledge assessment

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (अडियोमेट्रिक्स) समूह : स्वास्थ्य तह/श्रेणी : सहायक प्रथम  
पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५ समय : १ घण्टा

Objective: To assess the candidate's practical competence in audiometry and basic speech-hearing services including operation of audiological equipment, hearing assessment procedures, interpretation of audiological findings, and basic counseling and rehabilitation planning for individuals with hearing impairment.

### Specification Chart

S.N.	Course Content (Activities)	No. of Question	Marks
1.	Identification of parts and basic operation of audiometric equipment (Audiometer / Tympanometer / ENT set)	1	5
2.	Demonstration or interpretation of Pure Tone Audiometry (PTA) and identification of audiogram pattern	1	5
3.	Performance or explanation of tuning fork tests (Rinne, Weber, Absolute Bone Conduction)	1	5
4.	Interpretation of hearing loss (type and degree) from a given audiogram or case scenario	1	5
5.	Identification and basic explanation of types of hearing aids and assistive listening devices	1	5
6.	Basic counseling / rehabilitation advice for a patient with hearing impairment (aural rehabilitation or hearing conservation)	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

त्रिभुवन विश्वविद्यालय  
सेवा आयोग

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : मुख्य स्वास्थ्य सहायक (एनेस्थेसिया)  
पूर्णाङ्क : ३०

समूह : स्वास्थ्य  
समय : १ घण्टा

तह/श्रेणी : सहायक प्रथम

### Specification Chart

S No	Course Content( Activities)	No of question	Marks
1.	Anesthesia Machines and Gas Supply, Regional Anesthesia and Spinal Anesthesia	1	5
2.	Patient Monitoring Equipment and Basics of Emergency Drugs	1	5
3.	Basic and Advanced Airway Management	1	5
4.	Cardiopulmonary Resuscitation	1	5
5.	Blood and Blood Product Transfusion, Anaphylaxis	1	5
6.	Infection prevention	1	5
	Total	6	30

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : स्वास्थ्य सहायक (इ.सि.जी)  
पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५

समूह : स्वास्थ्य  
समय : १ घण्टा

तह/श्रेणी : सहायक द्वितीय

- 1) Objective: To assess the candidate's competency in:
- 2) Preparation of patient and correct placement of ECG electrodes
- 3) Recording a standard 12 lead ECG and special lead placements
- 4) Identification of common ECG rhythms and abnormalities
- 5) Handling, calibration, and troubleshooting of ECG instruments
- 6) Recognition and correction of ECG artifacts
- 7) Professional conduct, patient communication, and ethical practice during ECG recording

### Specification Chart

S.No.	Course Content (Activities)	No.of Question	Marks
1.	Patient preparation and 12 lead ECG recording	1	5
2.	Special lead placement (Right sided, Posterior leads, Lewis leads, Fontaine leads)	1	5
3.	ECG interpretation spotters	1	5
4.	Identification of ECG artifacts and troubleshooting	1	5
5.	ECG instrument handling	1	5
6.	Patient counselling, consent, and reporting of ECG	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

### Evaluation Criteria:

1. Patient safety and hygiene
2. Accuracy of lead placement and ECG recording
3. Ability to identify ECG findings

## प्रयोगात्मक परीक्षाको पाठ्यक्रम

पद : स्वास्थ्य सहायक (क्लिनिकल)  
पूर्णाङ्क : ३० उत्तीर्णाङ्क : १५

समूह : स्वास्थ्य  
समय : १ घण्टा

तह/श्रेणी : सहायक द्वितीय

Objective: To assess the candidate's ability to:

1. Apply theoretical knowledge in practical situations
2. Demonstrate competency in emergency care, examination, and patient management
3. Perform essential clinical and nursing procedures safely
4. Maintain hygiene, ethics and professionalism
5. Communicate effectively with patients, their families or caregivers

### Specification Chart

S.No.	Course Content (Activities)	No. of Question	Marks
1.	Blood pressure measurement and interpretation	1	5
2.	Management of acute diarrhea and dehydration	1	5
3.	First aid for snake bite	1	5
4.	Wound dressing and aseptic technique	1	5
5.	Counseling for family planning	1	5
6.	Mental health screening and counseling	1	5
<b>Total</b>		<b>6</b>	<b>30</b>

General Evaluation Criteria (For all stations/activities): **Any 5 among the following**

1. Greetings and patient preparation – 20% (1 mark)
2. Preparation, hygiene and Infection prevention – 20% (1 mark)
3. Procedural skill – 20% (1 mark)
4. Procedural accuracy – 20% (1 mark)
5. Interpretation/Explanation – 20% (1 mark)
6. Safety, ethics and communication – 20% (1 mark)

**Marking for each can be either 0 or 1 OR 0, 0.5 or 1 (As per TUSC Decision)**

### Station 1: BP measurement and Interpretation

A 45-year-old male patient presents for routine checkup complaining of occasional headaches and dizziness.

“Measure the Blood Pressure of this patient accurately and interpret the reading. Explain your findings to the patient.”

#### Examiner Checklist

Step	Description	Tick (✓/X)	Marks
1	Greets patient, gains consent		1
2	Washes/sanitizes hands, prepares equipment (cuff size appropriate)		1
3	Positions patient correctly (seated, arm supported at heart level, rested 5 min), locates brachial artery		1
4	Applies cuff correctly, inflates to 20-30 mmHg above radial pulse disappearance, deflates slowly (2-3 mmHg/sec), notes systolic/diastolic accurately in both arms		1
5	Interprets result (e.g., Normal/elevated/hypertension), explains to patient		1

### Station 2: Management of acute diarrhea and dehydration

A mother comes to you without her baby. The baby has history of 5 episodes of watery diarrhea in the past 24 hours. There is no blood in stool. The child has mild thirst and is able to drink.

“Take appropriate history of this child with acute diarrhea and dehydration. Teach ORS preparation to the mother with demonstration and advise on feeding and medications. Explain her when to bring the baby to the hospital.”

#### Examiner Checklist

Step	Description	Tick (✓/X)	Marks
1	Greets caregiver, takes history (duration, frequency, fluids, danger signs)		1
2	Washes hands and explains steps of ORS preparation		1
3	Demonstrates ORS preparation		1
4	Advice on feeding (continue breastfeeding, zinc, no-antidiarrheal drug)		1
5	Explains the danger signs (Signs of severe dehydration) for bringing the baby to the hospital		1

### Station 3: First aid for snake bite

Simulated patient: A 30-year-old farmer presents with snake bite on the lower leg (marked) presents to your hospital. He was bitten by the snake 10 minutes earlier. He is anxious but stable.

“Evaluate and provide first aid to this patient before referral for anti-snake venom with proper explanation.”

#### Examiner Checklist

Step	Description	Tick (✓/X)	Marks
1	Greets, reassures, and asks bite details (snake type, time, symptoms – swelling/pain, neurological symptoms)		1
2	Assesses airway/breathing/circulation, monitors vitals		1
3	Washes hands, Immobilize limb (firm but not tight)/splints limb		1
4	Explains about NO tourniquet/cutting/suction		1
5	Arranges URGENT referral to hospital for antivenom		1

### Station 4: Wound dressing and aseptic technique

Simulated patient/wound: Simulated clean laceration on forearm without ongoing bleeding. (Station has sterile gloves, saline, gauze, tape).

“Dress the wound on this patient’s arms using aseptic technique and explain the patient the things he should do to prevent infection.”

#### Examiner Checklist

Step	Description	Tick (✓/X)	Marks
1	Greets patient, explains procedure		1
2	Prepares trolley and washes hands and puts on gloves		1
3	Cleans wound with saline from center outward		1
4	Applies sterile dressing without contamination and checks neurovascular status		1
5	Advises tetanus vaccination and follow-up with infection prevention education		1

### Station 5: Counseling for family planning

A 22-year-old married woman (para 1, no contraception currently) visits for postpartum checkup at 6 weeks after normal delivery. She expresses desire for child spacing (wants 3-4 years before next pregnancy). Provide counseling charts, sample contraceptives (pills, condoms, injectables), privacy screen.

“Counsel this woman on family planning options for child spacing. Discuss choices, benefits, myths and follow-up.”

### Examiner Checklist

Step	Description	Tick (✓/X)	Marks
1	Greets patient, confirms identity/confidentiality		1
2	Explains options non-judgmentally (eg. lactational amenorrhea, condoms, pills, injectables, IUCD)		1
3	Discusses suitability accurately (Effectiveness, side-effects, and other benefits of each)		1
4	Addresses myths/barriers (infertility risk, partner involvement)		1
5	Plans follow-up/return date, refers if needed		1

### Station 6: Mental Health Screening

Simulated patient: A 40-year-old migrant worker presents with sadness and low mood, disturbed sleep and low energy for 4 weeks. He says he has also lost interest in activities he used to enjoy before. He feels purposeless, doesn't feel like living anymore and has ideas of self-harm since a few days.

"Take appropriate history of this patient and explain the condition to the patient and the reason for admission/referral."

### Examiner Checklist

Step	Description	Tick (✓/X)	Marks
1	Greets patient, ensures privacy, builds rapport		1
2	Takes history of substance use, or recent traumatic events in life		1
3	Takes history sensitively about any suicidal thoughts		1
4	Explains the patient about Depression.		1
5	Explains the patient the need for monitoring and treatment because of suicidal ideation.		1