

# SRI VENKATESWARA UNIVERSITY

## B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY

### V SEMESTER

(Syllabus under CBCS w.e.f. 2022-23)

Skill Enhancement Courses for Sem -

V Structure of SECs for Sem - V

(Candidate has to choose one pair from the three alternative pairs of SECs)

University Code	Course Number	Name of the Course	Hours/Week	Credits	Marks	
					IA	Sem End Theory+ Practical
	6A	Nutrition & Nutrition Education	3	3	25	75
	6A LAB	Nutrition & Nutrition Education	3	2	-	50
	7A	Basic Medicine & Treatment of Minor Ailments	3	3	25	75
	7A LAB	Basic Medicine & Treatment of Minor Ailments	3	2	-	50

Or

University Code	Course Number	Name of the Course	Hours/Week T+P	Credits T+P	Marks	
					IA	Sem End Theory+ Practical
	6B	Community Health	3	3	25	75
	6B LAB	Community Health	3	2	-	50
	7B	Community Medicine	3	3	25	75
	7B LAB	Community Medicine	3	2	-	50

Or

University Code	Course Number	Name of the Course	Hours/Week T+P	Credits T+P	Marks	
					IA	Sem End Theory+ Practical
	6C	Environmental Sanitization	3	3	25	75
	6C LAB	Environmental Sanitization	3	2	-	50
	7C	Fundamentals of Biomedical Instrumentation	3	3	25	75
	7C LAB	Fundamentals of Biomedical Instrumentation	3	2	-	50

\*\*\* To be taught by Sericulture/Life Sciences Teachers

Note-1: For Semester-V, for the domain subject Paramedical Science, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C. The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

# **SRI VENKATESWARA UNIVERSITY**

## **B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY**

### **V SEMESTER**

**(Syllabus under CBCS w.e.f. 2022-23)**

### **COURSE 6 A: NUTRITION & NUTRITION EDUCATION**

**(Skill Enhancement Course (Elective), -Credits: 05)**

**Max. Marks: 100**

#### **I. Learning Outcomes:**

After completing this course, the student will be able to –

- Understand the importance of nutrition in health
- Understand the principles of nutrition and balanced diet
- Plan and prepare balanced diet for vulnerable & special groups
- Develop skills for preparation of nutritious food
- Identify cases of malnutrition in the population
- Plan, conduct and evaluate nutrition education in the community

#### **II. Syllabus**

(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

##### **Unit I : Introduction to Nutrition**

Introduction to the study of nutrition – Nutritional Status & Health  
Classification and functions of foods – body building, energy yielding & protective foods.  
Sources, functions, and daily allowances of Carbohydrates, Proteins, Fats, Water & Cellulose  
– Calorie requirements- Nutritive value of different food stuffs  
Balanced Diet – Planning of meals – Improvement of foods – Selection of foods

##### **Unit II: Cultural factors of Nutrition**

Household methods of food preservation – household measures of food hygiene –  
different methods of cooking Cultural practices & dietary habits across the country  
Food adulteration practices injurious to health-simple techniques for detecting adulteration

##### **Unit III: Malnutrition**

Nutritional requirements of special & vulnerable groups – improving  
maternal&child nutrition. Different types of malnutrition – causes and the incidence  
Prevalence of deficiency diseases in India  
Vitamin deficiency diseases

##### **Unit IV: Nutrition Education**

Factors considered in nutrition teaching – home economics, culture & food habits –  
Availability of food stuffs in rural & urban communities  
Opportunities for nutrition teaching – home clinics, health centres,  
hospitals, schools & community centres  
Nutrition education for maternal health – diet in pregnancy, diet for lactating mothers,  
common nutritional deficiencies in women  
Nutrition education for children – breast feeding, introduction of solids and liquids to a  
child, feeding schedules, preparation of food for infants & children, dietary needs of pre-  
school & high school children - Nutritional deficiencies in children

## **Unit V: Nutrition Education**

nutrition education for chronic illness, care of the sick & specific diseases – Dietary modifications ( blended diet, liquid diet, semi-solid diet & soft diet)

Dietary modification in diabetes, peptic ulcers, hypertension, heart diseases & renal diseases

Assisting & guiding family members in selection and preparation of food for persons with special dietary needs

### **III. References**

1. Integrated nutrition education – a hand book by Food & Nutrition Board, Ministry of Civil supplies, Govt. of India

#### **Web resources:**

[http://nhm.gov.in/images/pdf/programmes/wifs/job-ids/Nutrition\\_and\\_Health\\_Education.pdf](http://nhm.gov.in/images/pdf/programmes/wifs/job-ids/Nutrition_and_Health_Education.pdf)

<https://wcd.nic.in/sites/default/files/integrated%20nutrition%20education-%20a%20handbook.pdf>

<https://www.fao.org/3/i3234e/i3234e.pdf>

Any other Web sources suggested by the teacher concerned and the college librarian including reading material

**SRI VENKATESWARA UNIVERSITY**  
**B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY**

**V SEMESTER - W.E.F. 2022-23**

**COURSE 6 A: NUTRITION & NUTRITION EDUCATION**

**MODEL QUESTION PAPER**

Time: 3 hours

Marks: 75 marks

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.

Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

**PART – A**

Answer any *Five* of the following question.

**(5X5=25M)**

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

**(P.T.O)**

**PART - B**

**Answer All The Questions. Each question carries 10 marks (5X10= 50M)**

9.	(A)  OR  (B)
10.	(A)  OR  (B)
11.	(A)  OR  (B)
12.	(A)  OR  (B)
13.	(A)  OR  (B)

**Course 6A: Nutrition & Nutrition Education**  
**Practical Syllabus Max. Marks : 50**

**IV. Learning Outcomes:**

After completing this course, the student will be able to –

- Identify malnutrition cases in the family
- Prescribe diet for special needs
- Detect food adulteration

**V. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)**

1. Simple experiments to detect adulteration of different foods – cereals, pulses, oils & vegetables
2. Diet survey
3. Field visit to nearest children's hospital
4. Field visit to nearest maternity hospital (focussing on nutritional deficiencies only)

**VI. Lab References :**

<https://wcd.nic.in/sites/default/files/integrated%20nutrition%20education-%20a%20handbook.pdf>

**VII. Co-Curricular Activities:**

a) **Mandatory:** (Student training by teacher in field skills: total 15hrs, Lab: 10+ filed 05):

1. For Teacher: Training of students by the teacher in the laboratory and field for not less than 15 hours on the skills of identification of malnutrition cases
2. For Student: Students shall (individually) visit any local health center/anganwadi center, make observations different diets given for children & women of special needs. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE) Unit tests

**b) Suggested Co-Curricular Activities**

6. Web-based: Collection of additional information of nutrition deficiencies; Charts /Models preparation
7. Seminar, Invited lecture, Assignment, Group discussion. Quiz, Collection of Material, Video preparation etc.

**SRI VENKATESWARA UNIVERSITY**  
**B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY**  
**V SEMESTER**  
**(Syllabus under CBCS w.e.f. 2022-23)**

**COURSE 7A: BASIC MEDICINE & TREATMENT OF MINOR AILMENTS**

(Skill Enhancement Course (Elective), -Credits: 05)

Max. Marks : 100

**I. Learning Outcomes:**

After completing this course, the student will be able to –

- Develop the ability to recognize and treat minor ailments
- Acquire sufficient knowledge of identifying signs and symptoms of diseases of common occurrence and provide elemental medical care
- Acquire knowledge of common drugs and their adverse effects

**II. Syllabus**

(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

**Unit I : Importance of Home Nursing**

1.1 Preparing the patient's room at home & first aid kit

Hygiene of the patient – bath, elimination, feeding, acuity comfort measures, change of position, rest & recreation Teaching family members to assist in the treatment and take home nursing responsibilities

**Unit II: Examination of the patient**

Observation of the patient – skin, temperature, pulse rate, BP, respiration & general condition Examination of the patient – case taking, methods of examination, recognizing signs & symptoms, detecting minor ailments, recognition of signs of emergency

Action to be taken for serious emergencies and illness

**Unit III: Treatment of Minor Ailments -1**

Conditions affecting skin; signs & symptoms; treatment (itching, rashes, patches, boils, bugs, lice, scabies, boils, burns, ulcers & swelling)

Conditions affecting eye & ear; signs & symptoms; treatment (earache, discharges from ear, foreign body in ear & eye, dry eyes, blurred vision, inflammation of eyes; watering eyes, jaundiced eyes, glaucoma, trachoma)

Conditions affecting skeleton; signs & symptoms; treatment (fractures, sprains, dislocation, joints swelling & pains)

Conditions affecting respiratory system; signs & symptoms; treatment (complaints of nose, sore throat, tonsillitis, cough & cold, bronchitis, asthma)

#### **Unit IV: Treatment of Minor Ailments -II**

Conditions affecting digestive system; signs & symptoms; treatment (indigestion, gastritis, peptic ulcers, jaundice, abdominal pain & distension, constipation, diarrhoea, sore mouth, toothache)

Conditions affecting circulatory system; signs & symptoms; treatment (cardiac asthma, bradycardia, tachycardia, high BP)

Conditions affecting urinary system; signs & symptoms; treatment (urinary incontinence, renal colic, retention)

Conditions affecting neuromuscular system; signs & symptoms; treatment (headaches, fever, backache, head injuries, paralysis)

Conditions affecting reproductive system; signs & symptoms; treatment (genital sores, urethral & vaginal discharges, prolapses, menstrual problems)

#### **Unit V: Basic Nursing Care & Pharmacology**

Basic medical & nursing care in common disorders of different organ systems

Mechanism of drug action – local & systemic – General account of adverse effects of drugs

Classification and action of drugs in common use – (analgesics, antipyretics, antiseptics, anti-coagulants, anti-depressants, laxatives, sedatives and nutrition supplements)

#### **III. References**

1. Janice L Hinkle, Brunner & Suddarth's Textbook of Medical Surgical Nursing – Wolters Kluwer (India) Pvt.Ltd. 2018
2. S.D.Manivannan, Textbook of Community Health Nursing, CBS publishers, 2017
3. Deepak Sethi & Rani Kirti Maj. Medical Surgical Nursing Vol I & II – Jaypee Brothers Medical Publishers, 2021

#### **Web resources:**

<https://www.nursingtimes.net/opinion/basic-nursing-care-requires-more-than-basic-skills-07-03-2017/>

<https://pubmed.ncbi.nlm.nih.gov/29399942/>

Any other Web sources suggested by the teacher concerned and the college librarian including reading material



# SRI VENKATESWARA UNIVERSITY

## B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY

V SEMESTER - W.E.F. 2022-23

### COURSE 7A: BASIC MEDICINE & TREATMENT OF MINOR AILMENTS

#### MODEL QUESTION PAPER

Time: 3 hours

Marks: 75 marks

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A. Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

#### PART – A

Answer any *Five* of the following question.

(5X5=25M)

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

(P.T.O)

**PART - B**

**Answer All The Questions. Each question carries 10 marks (5X10= 50M)**

9.	(A)  OR  (B)
10.	(A)  OR  (B)
11.	(A)  OR  (B)
12.	(A)  OR  (B)
13.	(A)  OR  (B)

## **COURSE 7A: BASIC MEDICINE & TREATMENT OF MINOR AILMENTS**

**Practical Syllabus Max. Marks : 50**

### **IV. Learning Outcomes:**

After completing this course, the student will be able to –

- Identify minor ailments of medical concern
- Prescribe basic first aid & treatment
- Appreciate bedside procedures
- Basic nursing

### **V. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)**

**Note: Students may be sent to nearest hospital for practical training as part of internship**

1. First aid to injuries
2. Physical examination & Case taking
2. Bedside assistance to patients in wards
3. Bedside assistance in medical emergency
4. Field visit to nearest superspeciality hospital (focussing on nutritional deficiencies only)

### **VI. Lab References:**

M.B.Patil, Ward Procedures, 6/e, Elsevier India, 2013

Web resources:

<https://capcuamateur.files.wordpress.com/2013/10/bedside-procedures-in-the-icu-ed-f-falter-2012.pdf> <https://accessmedicine.mhmedical.com/content.aspx?bookid=365&sectionid=43074922>

Any other resources suggested by the concerned teacher

### **VII. Co-Curricular Activities:**

a) **Mandatory:** (Student training by teacher in field skills: total 15hrs, Lab: 10+ filed 05):

1. For Teacher: Training of students by the teacher in the laboratory and field for not less than 15 hours on the skills of ward procedures
2. For Student: Students shall (individually) visit any local health centre/area hospital/superspeciality, make observations different diets given for children & women of special needs. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE) Unit tests

### **b) Suggested Co-Curricular Activities**

6. Web-based: Collection of additional information of nutrition deficiencies; Charts /Models preparation
7. Seminar, Invited lecture, Assignment, Group discussion. Quiz, Collection of Material, Video preparation etc.

# **SRI VENKATESWARA UNIVERSITY**

## **B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY**

### **V SEMESTER**

**(Syllabus under CBCS w.e.f. 2022-23)**

### **COURSE 6 B: COMMUNITY HEALTH**

**(Skill Enhancement Course (Elective), -Credits: 05)**

**Max. Marks : 100**

#### **I. Learning Outcomes:**

After completing this course, the student will be able to –

- Understand the importance of community health
- Suggest remedies for health issues of school going children
- Devise methods to reduce incidence of communicable diseases
- Utilize knowledge of different concepts of community health for promotion of health in different age groups

#### **II. Syllabus**

(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

##### **Unit I: Factors affecting community health**

1.1 General factors affecting community health – climate & other environmental factors

General factors affecting community health – Water supply; Personal hygiene & cleanliness

Community health programs by the Central & State governments

##### **Unit II: Factors affecting the health of the mother & child**

Immunization programme – Role of immunization in keeping up community health

Special factors affecting the health of mother & child during pregnancy – pre-natal factors; maternal nutrition; hereditary factors; environmental & socio-economic factors.

Stages of child's life - Infancy; pre-school; childhood; adolescence; basic needs & priorities; developmental tasks

Assessment growth and development – weight, height in relation to normal growth curves; milestones of psychomotor development

##### **Unit III: Nutritional requirements of the mother & child**

Nutritional requirements of pregnant woman & neonate

Nutritional requirements of infants, pre-school & school going children to prevent deficiency diseases; prevalence of rickets, marasmus, kwashiorkor, anaemia, deficiency of vitamins A & B in children; Examination of the child with reference to general health

Prevention and treatment of common childhood diseases – common cold, cough & measles; skin infections; pneumonia; chickenpox; whooping cough; mumps; worm infections; eye & ear infections; tetanus; dehydration & diarrhoea

Infant mortality & prevention; common childhood accidents & prevention.

##### **Unit IV: Child health programs & initiatives**

Environmental health hazards for child health

Agencies for child care & child welfare; child guidance clinics; school health services; school feeding program

Schools for handicapped children; rehabilitation centres for disabled children

improvement of child health care services – role of health workers, family and community

Legal provisions for child protection

## **Unit V: Community Health Administration**

The ministry of health – Director of Public health & his staff – Director of medical services & his staff - Departments of public health & medical services – their relation with other departments

Responsibility of the State & local bodies in matters of public health

Details, organization, duties & responsibilities, authority for such responsibilities & powers

Community health laws, rules& bye-laws - Procedures in respect of water supply, food control, housing, town planning - Epidemic control

### **III. References**

1. Bhalwar. Textbook of Community Medicine. Wolters Kluwer India Pvt Ltd. 4/e, 2021
2. K.Park.Park's Textbook of Social & Preventive Medicine. Banarasidas Bhanot Publishers. 2021
3. Vivek Jain. Review of Preventive & Social medicine. Jaypee Medical Books

### **Web resources:**

<https://www.commhealth.org/development/50-2/factors-healthy-community/>

<https://www.who.int/news-room/questions-and-answers/item/determinants-of-health>

<https://online.regiscollege.edu/blog/environmental-factors-that-affect-health/>

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**V SEMESTER - W.E.F. 2022-23**

**COURSE 6 B: COMMUNITY HEALTH**

**MODEL QUESTION PAPER**

Time: 3 hours

Marks: 75 marks

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A. Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

**PART – A**

Answer any *Five* of the following question.

**(5X5=25M)**

<b>1.</b>	
<b>2.</b>	
<b>3.</b>	
<b>4.</b>	
<b>5.</b>	
<b>6.</b>	
<b>7.</b>	
<b>8.</b>	

**(P.T.O)**

**PART - B**

**Answer All The Questions. Each question carries 10 marks (5X10= 50M)**

9.	(A)  OR  (B)
10.	(A)  OR  (B)
11.	(A)  OR  (B)
12.	(A)  OR  (B)
13.	(A)  OR  (B)

## **COURSE 6B: COMMUNITY HEALTH**

### **Practical Syllabus**

**Max. Marks : 50**

After completing this course, the student will be able to –

- Assess the prevalence of a particular disease in the community
- Determine quality of air & water
- Appreciate the determiners of community health
- Educate family & community about lifestyle diseases
- Conduct awareness programs about community health

#### **IV. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)**

1. Determination of air quality parameters
2. Determination of water quality parameters
3. Epidemiological survey of prevalence of nutrition deficiency disorders in school children
4. Epidemiological survey of prevalence STDs
5. Assessment of infant mortality

#### **V. Lab References :**

<https://www.pranaair.com/blog/what-is-air-quality-index-aqi-and-its-calculation/>

<https://www.fao.org/3/x5624e/x5624e05.htm>

[http://www2.clarku.edu/mtafund/prodlib/yellowstone/health\\_survey.pdf](http://www2.clarku.edu/mtafund/prodlib/yellowstone/health_survey.pdf)

Any other reference given by the teacher concerned

#### **VI. Co-Curricular Activities:**

a) **Mandatory:** (Student training by teacher in field skills: total15hrs, Lab: 10+ filed 05):

1. For Teacher: Training of students by the teacher in the laboratory and field for not less than15hours on the skills of identification of malnutrition cases
2. For Student: Students shall (individually) visit local area community survey to determine prevalence of various diseases. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE)Unit tests

#### **b) Suggested Co-Curricular Activities**

6. Web-based: Collection of additional information of nutrition deficiencies; Charts /Models preparation
7. Seminar, Invited lecture, Assignment, Group discussion. Quiz, Collection of Material, Video preparation etc.



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## **B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY**

### **V SEMESTER**

**(Syllabus under CBCS w.e.f. 2022-23)**

### **COURSE 7B: COMMUNITY MEDICINE**

**(Skill Enhancement Course (Elective), -Credits: 05)**

**Max. Marks : 100**

#### **I. Learning Outcomes:**

After completing this course, the student will be able to –

- Understand the importance preventive measures in safeguarding community health
- Plan and execute control programs to check communicable diseases
- Educate the public about non-communicable diseases
- Evaluate disease burden on the community
- Suggest measures to check non-communicable diseases

#### **II. Syllabus**

(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

##### **Unit I: Introduction to communicable diseases**

Basic terminology & prevalence of communicable diseases in India with emphasis on Andhra Pradesh

General measures of prevention & control of communicable diseases

Role of different stake holders (Health workers, individuals, family, community & public health authorities) in relation to specific measures for prevention and control of communicable diseases

##### **Unit II: Immunity & Immunization**

Basic concepts of natural & acquired immunity; Purpose & Types of Immunization; methods of immunization & related techniques

National immunization schedule for prevention of major communicable diseases – BCG, Polio, Measles, Typhoid

Immunization reactions –precautions; use of sterile equipment & safe techniques; testing for sensitivity; emergency treatment for anaphylactic shock

##### **Unit III: Control & prevention of specific communicable diseases**

Symptoms, modes of spread, control & prevention of - Malaria, Filariasis, Dengue

Symptoms, modes of spread, control & prevention of – Leprosy, Tuberculosis, Tetanus & Cholera

Symptoms, modes of spread, control & prevention of – Polio myelitis, Hepatitis, Chickenpox, Small pox and COVID-19, Dysenteries

Symptoms, modes of spread, control & prevention of – Gonorrhoea, Syphilis, AIDS

Disinfection and sterilization – physical & chemical agents; techniques &precautions in use of disinfectants.

##### **Unit IV: Life style diseases & Community health**

Prevalence of life style diseases in India with emphasis on Andhra Pradesh

Signs, symptoms of specific non-communicable diseases – Obesity, Hypertension, Diabetes mellitus, Coronary artery disease, Carcinoma of breast, carcinoma of cervix

Measures for prevention of non-communicable diseases

## **Unit V: National programs of health**

Philosophy & strategy of National programs of health

National AIDS control program; non-communicable disease control program; STD control program;

National tuberculosis control program; national leprosy control program; national rural health mission

### **III. References**

1. Bhalwar. Textbook of Community Medicine. Wolters Kluwer India Pvt Ltd. 4/e, 2021
2. K.Park. Park's Textbook of Social & Preventive Medicine. Banarasidas Bhanot Publishers. 2021
3. Vivek Jain. Review of Preventive & Social medicine. Jaypee Medical Books

### **Web resources:**

<https://www.commhealth.org/development/50-2/factors-healthy-community/>

<https://www.who.int/news-room/questions-and-answers/item/determinants-of-health>

<https://online.regiscollege.edu/blog/environmental-factors-that-affect-health/>

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**V SEMESTER - W.E.F. 2022-23**

**COURSE 7B: COMMUNITY MEDICINE**

**MODEL QUESTION PAPER**

Time: 3 hours

Marks: 75 marks

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A. Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

**PART – A**

Answer any *Five* of the following question.

**(5X5=25M)**

<b>1.</b>	
<b>2.</b>	
<b>3.</b>	
<b>4.</b>	
<b>5.</b>	
<b>6.</b>	
<b>7.</b>	
<b>8.</b>	

**(P.T.O)**

**PART - B**

**Answer All The Questions. Each question carries 10 marks (5X10= 50M)**

9.	(A)  OR  (B)
10.	(A)  OR  (B)
11.	(A)  OR  (B)
12.	(A)  OR  (B)
13.	(A)  OR  (B)

## **COURSE 7B: COMMUNITY MEDICINE**

### **Practical Syllabus**

**Max. Marks : 50**

After completing this course, the student will be able to –

- Perform immunization
- Conduct health assessment survey
- Report the prevalence of a particular disease in a community

#### **IV. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)**

1. Family & community health assessment
2. Conducting home visit
3. Conducting mass health education
4. Participation in a health camp like immunization
5. maintenance of health records of family & community

#### **V. Lab References :**

[https://apps.who.int/iris/handle/10665/171753\\_file:///C:/Users/Mr/Downloads/BSN%204616P\\_Practical%20Community%20Health%20Nur sing\\_full.pdf](https://apps.who.int/iris/handle/10665/171753_file:///C:/Users/Mr/Downloads/BSN%204616P_Practical%20Community%20Health%20Nur%20sing_full.pdf)

Any other reference given by the teacher concerned

#### **VI. Co-Curricular Activities:**

a) **Mandatory:** (Student training by teacher in field skills: total15hrs, Lab: 10+ filed 05):

1. For Teacher: Training of students by the teacher in the laboratory and field for notlessthan15hours on the skills of identification of malnutrition cases
2. For Student: Students shall (individually) visit health centre during immunization program and health awareness camp. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE)Unit tests

#### **b) Suggested Co-Curricular Activities**

6. Web-based: Collection of additional information of nutrition deficiencies; Charts /Models preparation
7. Seminar, Invited lecture, Assignment, Group discussion. Quiz, Collection of Material, Video preparation etc.

# SRI VENKATESWARA UNIVERSITY

## B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY

### V SEMESTER

(Syllabus under CBCS w.e.f. 2022-23)

## **COURSE 6 C: ENVIRONMENTAL SANITIZATION & WASTE MANAGEMENT**

(Skill Enhancement Course (Elective), -Credits: 05)

Max. Marks : 100

### **I. Learning Outcomes:**

After completing this course, the student will be able to –

- Understand the importance of nutrition in health
- Understand the principles of nutrition and balanced diet
- Plan and prepare balanced diet for vulnerable & special groups
- Develop skills for preparation of nutritious food
- Identify cases of malnutrition in the population
- Plan, conduct and evaluate nutrition education in the community

### **II. Syllabus**

(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

#### **Unit I: Public health**

Concept of Public Health – Scope – Sanitation & hygiene – Modern Public Health Practice

Quality of water, air & soil as per general standards of public health

Hierarchy in Public Health System - Duties & responsibilities of personnel at different levels

#### **Unit II: Solid & Plastic Waste Management**

Sources and Classification of solid waste – generation of solid waste – norms for solid waste generation- Physical & chemical properties of solid waste

Objectives & principles of solid waste management – stages of solid waste management – tools, equipment & vehicles required

Processing of Solid waste – Public -private partnership -final disposal of solid waste

Different types of plastic waste – food grade plastics & colouring materials – recycling

Rules & Regulations related to solid & plastic waste management in rural & urban areas

#### **Unit III: Excreta & Liquid Waste Management**

Methods of collection & disposal of excreta – different types of latrines

Collection of liquid filth – open drains & cesspools – disposal methods

Sewage & sewage treatment

Artificial & biological methods of cleansing liquid waste – their effect on soil pollution

Biomedical waste management – general principles.

#### **Unit IV: Camp & Housing Sanitation**

Fairs, festivals, labour camps and other congregations – need for public health arrangements – methods of disease spread in large gatherings – detection of infection, isolation & disinfection & immunoprophylaxis in congregations

Lay out, accommodation, water supply, sanitary conveniences, waste collection & disposal, food establishment & control of animals during large congregations

Sanitary requirements of buildings in general – Special requirements of residence, schools, industrial buildings, places of entertainment connected with food trade

General considerations of sanitation in industries

#### **Unit V: Engineering in Disease Control**

Rodent control – rat elimination & destruction; fumigation; rat proof construction

Fly control – anti-fly measures; destruction of flies; fly traps; poisons; prevention of breeding; protection of food from flies

Mosquito control – recurrent, naturalistic and permanent methods of control of mosquito larvae & adults; spray killing methods – larvicides & insecticides

Design of drainage in relation to control of malaria, filaria & other mosquito-borne diseases; sub-soil drainage

### **III. References**

- 1.S.S. Hacisalihzade. Biomedical applications of Control Engineering, Springer India, 2013
2. George Moses Price, Hygiene and Sanitation – A Text Book for Nurses. Wentworth press,2016
3. Sunetra Roday, Food, Hygiene and Sanitation.
4. Ruth Bryant. Hygiene and Sanitation: ATextbook for Nurses. The American Journal of Public health
5. Sundar lal & Vikas. Public health management: Practice and Principles. CBS Publications, 2/3, 2018
6. Mary jane Shneider. Introduction to Public Health.VIVA Publications.5/e,

#### **2017 Web resources:**

<https://www.iwapublishing.com/sites/default/files/ebooks/9781843395140.pdf>

<https://phfi.org/>

<https://bmcpublichealth.biomedcentral.com/>

Any other Web sources suggested by the teacher concerned and the college librarian including reading material

# SRI VENKATESWARA UNIVERSITY

## B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY

V SEMESTER - W.E.F. 2022-23

### COURSE 6 C: ENVIRONMENTAL SANITIZATION & WASTE MANAGEMENT

#### MODEL QUESTION PAPER

Time: 3 hours

Marks: 75 marks

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A. Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

#### PART – A

Answer any *Five* of the following question.

(5X5=25M)

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

(P.T.O)



**PART - B**

**Answer All The Questions. Each question carries 10 marks (5X10= 50M)**

9.	(A)  OR  (B)
10.	(A)  OR  (B)
11.	(A)  OR  (B)
12.	(A)  OR  (B)
13.	(A)  OR  (B)

## **COURSE 6C: ENVIRONMENTAL SANITIZATION & WASTE MANAGEMENT**

### **Practical Syllabus**

**Max. Marks : 50**

#### **IV. Learning Outcomes:**

After completing this course, the student will be able to –

- Prefer the type of toilet construction
- Design drainage
- Design rat proof construction

#### **V. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)**

1. Disinfection of the vomit of patient suffering from infectious disease
2. Disinfection of the excreta of patient suffering from infectious disease
3. Chlorination of a well or any other water storage facility
4. Field visit to nearest y hospital waste treatment facility
5. Visit to a sewage treatment plant

#### **VI. Lab References :**

<https://apps.who.int/iris/handle/10665/171753>

Any other reference given by the teacher concerned

#### **VII. Co-Curricular Activities:**

a) **Mandatory:** (Student training by teacher in field skills: total15hrs, Lab: 10+ filed 05):

1. For Teacher: Training of students by the teacher in the laboratory and field for notlessthan15hours on the skills of identification of malnutrition cases
2. For Student: Students shall (individually) visit local area and observe different types of drainage, latrines suitable for rural areas, comfort pits, smokeless Chulah, gober gas plant etc. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE)Unit tests

#### **b) Suggested Co-Curricular Activities**

6. Web-based: Collection of additional information of nutrition deficiencies; Charts /Models preparation
7. Seminar, Invited lecture, Assignment, Group discussion. Quiz, Collection of Material, Video preparation etc.

# **SRI VENKATESWARA UNIVERSITY**

## **B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY**

### **V SEMESTER**

**(Syllabus under CBCS w.e.f. 2022-23)**

#### **COURSE 7 C: FUNDAMENTALS OF BIOMEDICAL INSTRUMENTATION**

**(Skill Enhancement Course (Elective), -Credits: 05)**

**Max. Marks : 100**

#### **I. Learning Outcomes:**

After completing this course, the student will be able to –

- Understand the importance biomedical instrumentation
- Able to study and interpret ECG
- Able to record ECG
- Develop skills for operation of biomedical instruments
- Suggest required tests using biomedical instruments

#### **II. Syllabus**

(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

##### **Unit I: Fundamentals of Biomedical Engineering**

Cell and its structure – Resting and Action Potential – Nervous system and its fundamentals – Basic components of a biomedical system- Cardiovascular systems- Respiratory systems - Kidney and blood flow – Biomechanics of bone – Biomechanics of soft tissues -Physiological signals and transducers – Transducers – selection criteria – Piezo electric, ultrasonic transducers – Temperature measurements – Fibre optic temperature sensors

##### **Unit II: Non Electrical Parameters Measurement And Diagnostic Procedures**

Measurement of blood pressure – Cardiac output – Heart rate – Heart sound – Pulmonary function measurements – spirometer – Photo Plethysmography, Body Plethysmography – Blood Gas analysers, pH of blood –measurement of blood pCO<sub>2</sub>, pO<sub>2</sub>, finger-tip oxymeter – ESR, GSR measurements.

##### **Unit III: Electrical Parameters Acquisition And Analysis**

Electrodes – Limb electrodes –floating electrodes – pregelled disposability electrodes – Micro, needle and surface electrodes – Amplifiers, Preamplifiers, differential amplifiers, chopper amplifiers – Isolation amplifier – ECG – EEG – EMG – ERG – Lead systems and recording methods – Typical waveforms – Electrical safety in medical environment, shock hazards – leakage current-Instruments for checking safety parameters of biomedical equipment.

##### **Unit IV: Imaging Modalities and Analysis**

Radio graphic and fluoroscopic techniques –Ultrasonography – Endoscopy – Thermography – Different types of biotelemetry systems – Retinal Imaging – Imaging application in Biometric systems.

##### **Unit V: Life Assisting, Therapeutic and Robotic Devices (Basic Principles only)**

Pacemakers – Defibrillators – Ventilators – Nerve and muscle stimulators – Diathermy – Heart – Lung machine – Audio meters – Dialysers – Lithotripsy – ICCU patient monitoring system – Nano Robots – Robotic surgery –Orthopedic prostheses fixation.

### III. References

1. K.T.Scott. A Text Book of Biomedical Instrumentation. CBS Publishers, New Delhi 2019
2. M.B. Patil. Ward Procedures. Elsevier India. 6/e. 2013
3. Khandpur. Handbook of Biomedical Instrumentation. McGraw Hill Education. 3/e. 2014

**Web resources:** <https://www.cdac.in/index.aspx?id=DBIHI&courseid=66#>

<https://lecturenotes.in/subject/27/biomedical-instrumentation-bi/note>

<https://studymaterialspdf.com/ei8-073-biomedical-instrumentation-eee/>

<https://studymaterialspdf.com/ei8-073-biomedical-instrumentation-eee/>

Any other web resource suggested by the concerned teacher

# **SRI VENKATESWARA UNIVERSITY**

## **B.Sc. DEGREE COURSE IN PARAMEDICAL TECHNOLOGY**

**V SEMESTER - W.E.F. 2022-23**

### **COURSE 7 C: FUNDAMENTALS OF BIOMEDICAL INSTRUMENTATION**

#### **MODEL QUESTION PAPER**

Time: 3 hours

Marks: 75 marks

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A. Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

#### **PART – A**

**Answer any *Five* of the following question.**

**(5X5=25M)**

<b>1.</b>	
<b>2.</b>	
<b>3.</b>	
<b>4.</b>	
<b>5.</b>	
<b>6.</b>	
<b>7.</b>	
<b>8.</b>	

**(P.T.O)**

**PART - B**

**Answer All The Questions. Each question carries 10 marks (5X10= 50M)**

9.	(A)  OR  (B)
10.	(A)  OR  (B)
11.	(A)  OR  (B)
12.	(A)  OR  (B)
13.	(A)  OR  (B)

## **Course 6C: Environmental Sanitization & Waste management**

**Practical Syllabus Max. Marks : 50**

### **IV. Learning Outcomes:**

After completing this course, the student will be able to –

- Use medical instruments
- Record ECG
- Analyse ECG & EEG
- Analyse blood gases
- Measure BP

### **V. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)**

1. Record ECG
2. Recording blood pressure using auscultatory method & electronic apparatus
3. Recording ultrasonography of abdomen
4. Field visit to nearest hospital for observing the function of life assisting equipment
5. Visit to an established clinical lab for learning safety protocol for biochemical analyzers

### **VI. Lab References :**

<https://www.srmist.edu.in/content/biomedical-instrumentation-lab-i>

[https://webstor.srmist.edu.in/web\\_assets/srm\\_mainsite/files/downloads/bmi.pdf](https://webstor.srmist.edu.in/web_assets/srm_mainsite/files/downloads/bmi.pdf)

Any other reference given by the teacher concerned

### **VII. Co-Curricular Activities:**

a) **Mandatory:** (Student training by teacher in field skills: total15hrs, Lab: 10+ field 05):

1. For Teacher: Training of students by the teacher in the hospital and lab for not less than15hours on the skills of identification of malnutrition cases
2. For Student: Students shall (individually) visit nearest hospitals and observe different types of equipment available with them. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE)Unit tests

### **b) Suggested Co-Curricular Activities**

6. Web-based: Collection of additional information of medical instruments; Charts /Models preparation
7. Seminar, Invited lecture, Assignment, Group discussion. Quiz, Collection of Material, Video preparation etc.

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