मौलाना आज़ाद नेशनल उर्दू यूनिवर्सिटी مولانا آزاد نیشنل اُردو یونیورسٹی

MAULANA AZAD NATIONAL URDU UNIVERSITY

(A Central University Under Ministry of Education, Government of India)
Accredited 'A+' grade by NAAC

SCHOOL OF SCIENCES

Department of Vocational Studies and Skill Development

B. Voc. (Emergency & Trauma Care Technology)
SEMESTER-I

S. No.	Component	Title of The Paper	Paper Code	Credits	Marks (Theory)		Marks (Practical)		Total
					External Assessment	Internal Assessment	External Assessment	Internal Assessment	
1.	Skill Paper - 1	Human Anatomy Part-I (Theory)	BVET101CCT	04	70	30	---	---	100
		Human Anatomy Part-I (Lab)	BVET101CCP	02	---	---	35	15	50
2.	Skill Paper - 2	Human Physiology Part-I (Theory)	BVET102CCT	04	70	30	---	---	100
		Human Physiology Part-I (Lab)	BVET102CCP	02	---	---	35	15	50
3.	Skill Paper - 3	Biochemistry (Theory)	BVET103CCT	04	70	30	---	---	100
		Biochemistry (Lab)	BVET103CCP	02	---	---	35	15	50
4.	Non-Skill Paper - 4	Microbiology (Theory)	BVET104CCT	03	35	15	---	---	50
		Microbiology (Lab)	BVET104CCP	01	---	---	35	15	50
5.	Non-Skill Paper - 5	English Communication Skills (Theory)	BVEN111SET	04	70	30	---	---	100
6.	Non-Skill Paper - 6	Basic Computers and Information Science (Theory)	BVCS111SET	03	35	15	---	---	50
		Basic Computers and Information Science (Lab.)	BVCS111SEP	01	---	---	35	15	50
		Total		**30**					**750**
Mandatory Non CGPA Courses									
7.	Non-Skill Paper - 7	Islamiyat (Theory)		02	35	15	---	---	50
		Total		**02**					**50**

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Skill Paper - 1) Human Anatomy - Part - I (Theory)

Credits – 04

Unit I) :

Introduction to anatomical terms and organization of the human body. Tissues, Definitions, types, characteristics, classification, location, functions, and formation. Musculoskeletal system : Bones- types, structures, Axial, and appendicular skeleton. Bone formation, and growth, joints, classification and structures, types and structures of muscles. Movements at the joints, and muscles producing movements.

Unit II) :

Anatomy of gastrointestinal tract, components of G I tracts, Oral cavity, Tonsils, Pharynx, Alimentary canal, Salivary glands.Anatomy of Digestive system, Stomach, Small & Large intestine, Liver, Gall bladder, Pancreas, Spleen, Biliary apparatus.

Unit III) :

Anatomy of Cardiovascular system, Circulatory system, structure of Heart, Location, Chambers, Blood Vessels- Arterial & Venous system, Systemic and pulmonary circulation, names of Arteries, Veins, & their positions, gross and microscopic structure of Lymphatic tissues.

Unit IV) :

Anatomy of respiratory system, Detailed study of Organs of Respiratory system, Nasal cavity, Larynx,Trachea, Lungs, Bronchial tree, Diaphragm-Detailed study of all organs.

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Skill Paper - 1) Human Anatomy - Part - I (Lab)

Credits – 02

---

1. Introduction of human body parts.
2. Skeletal system.
3. Different types of Bones.
4. Components of GI tract
5. Different types body organs (Brain, Heart, Branches of aorta, Stomach, Liver, Lungs, Trachea, Kidneys, Pancreas, spleen etc.
6. Histology – Epithelium, Cartilage, All muscles of body,
7. Axial & Appendicular Skeleton With Names & Number Of Bones
8. Muscles Trapezius Lattisimusdorsin Biceps Triceps Deltoid

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Skill Paper - 1) Human Physiology Part-I (Theory)

Credits – 04

PHYSIOLOGY

UNIT I) :

Blood-Plasma & Cellular components, RBC, WBC & Platelets, (morphological features, and functions) Haemoglobin (Structures, and functions) Homeostasis, & blood coagulation, Clotting factors, Mechanism of clotting, Disorders of clotting factors, Blood grouping system, by ABO & RH Typing, Cross matching, Rh Factor & Rh incompatibility, Blood Transfusion.

UNIT II) :

Gastro Intestinal Tract functions of Alimentary canal, Digestive glands, pancreas, Liver, Diglutition, composition, functions & Secretion of Saliva, Gastric Juices, Pancreatic Juice & Bile, Functions of Liver, Gall bladder, Pancreas, Spleen, Small & Large Intestines.

Unit III) :

Physiology of Heart, Properties of Cardiac muscle, Cardiac cycle, Cardiac output, Conduction system of heart, Areas of auscultation blood pressure. (Definition of normal value,clinical measurements of BP, regulation of BP, Hyper tension, Hypo tension, Regulation of Heart Rate, Pulse-Jugular, Radial pulses, ECG: definition, Documentation, & Significance.

Unit IV) :

Respiratory System: Functions of Respiratory System, stages of Respiration, Transport of respiratory gases, Respiratory regulation, Hypoxia, Cyanosis, Asphyxia, dead space, Uneven ventilation, Artificial Ventilation, Lungs Volumes (TV, IRV.ERV,Vital capacities, FEV I, FEV II, FEV III) , Oxygen dissociation Curve, Co2 Dissociation Curve.

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Skill Paper - 1) Human Physiology Part-I (Lab)

Credits – 02

---

1. Cardiovascular system Estimation of BP
2. Respiratory system Spirometer
3. Identification of blood group
4. Understanding ECG
5. HB Estimation
6. RBC, WBC, DLC Count
7. Spotters

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Skill Paper - 1) Biochemistry (Theory)

Credits – 04

UNIT-I) :

Carbohydrates,Definition,functions,classification, structural aspects, Isomerism, reactions of Monosaccharides, disaccharides, polysaccaharides, hetero,homo polysaccaharides, glycoprotiens, Diabetes mellitus, type 1 & 2, blood glucose regulation, hormones role, OGTT, other investigations.

UNIT-II) :

Lipids- Definition, functions, Classifications, Fatty acids, types, triacylglycerol, Properties of TAG, Phospholipids, glycolipids, lipoprotines, steroides, cholesterol. All chemistry related aspects.

UNIT-III) :

Proteins, & amino acids, definition, functions, amino acids classification, essential & non essential aminoacids, properties: physical & chemical, protein structure, properties. Denaturation, classification of proteins. Enzymes-Classification, Diagnostic importance of Enzymes, Enzyme pattern in various diseases.

UNIT-IV) :

Nucleic acids. Definition, functions, structures, nomenclature, purines, pyrimidines, structure of DNA, (Double helical & other types), Denaturation of DNA, structure of RNA, other types, Differences between RNA, DNA & functions of DNA & RNA.

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Skill Paper - 1) Biochemistry (Lab)

Credits – 02

---

1. Quantitative estimation of Glucose.
2. Quantitative estimation of proteins.
3. Quantitative analysis of Cholesterol
4. Quantitative estimation of SGOT/SGPT.
5. Spotters

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Non-Skill Paper - 4) Microbiology (Theory)

Credits – 03

Unit 1.

General Microbiology-History and Introduction of Microbiology, Microscopy and Morphology of bacterial cell and their function, classification of microorganism, size, shape and structure Growth and nutrition of Bacteria, Sterilization and Disinfection , Culture media, Culture methods and Identification of bacteria.

Unit 2.

Immunology-Basic concept about Infection (Source, Portal of entry and Spread), Immunity, Antigen, Antibody, Antigen-Antibody reaction, Hypersensitivity, Vaccines type of vaccines, Immunization schedule

Unit 3.

Systemic bacteriology- Disease caused and lab diagnosis of medically important bacteria (Staphylococcus, Streptococcus, Neisseria, Echerichia coli, Salmonella, Shigella, Vibrio, Mycobacteria, Spirochetes)

Unit 4.

Microorganisms and Staining :

The morphology and fine structure of Bacteria, Fungai, Alge, Protozoa and Viruses.Classification of microbiology stains and different types of staining – Simple staining, Negative staining, Impregnation methods, Different staining (Gram staining), Special Staining – Z. N. stain & Albert stain, KOH test.

Cultivation of Microorganism:

Purpose of cultivation of Microorganism. Basic growth requirements and Essential growth factor. Types of media, Preparation of media, storage of media, hospital infection, causative agents, transmission methods, investigation, prevention and control of hospital infection

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Non-Skill Paper - 4) Microbiology (Lab)

Credits – 01

---

1. Gram Staining, acid fast staining, BMW, Antibiotec Susceptibility test, Microscope study
2. Demonstration:

- Disposable syringe
- Sterile cotton swab
- Bacteriological loop
- Sterile tube
- McIntosh fildes Jar
- Autoclave
- Nutrient Agar plate
- Mac Conkey agar plate
- Mac conkey with LF
- Mac conkey with NLF
- Blood agar plate
- L J Media
- RCM
- BHI broth
- Antibiotic susceptibility test
- Gram Positive Cocci in Clusters
- Gram negative bacilli
- AFB
- VDRL Slide
- Microtitre plate

B. Voc. (Emergency & Trauma Care Technology)
SEMESTER-I
(Skill Paper - 1) English Communication Skills (Theory)
Credits – 04

Course Title: **English Communication Skills**

Scheme of Instruction
Total Duration: 60 hrs.
Periods / Week: 4
Credits: 4
Instruction Mode: Lecture

Scheme of Examination
Maximum Marks: 100
Internal Evaluation: 30
End Semester: 70
Exam Duration: 3 hrs.

Course Outcomes: Upon the completion of the course, the students are expected to have enhanced their communication skills in English.

Course Objectives: The course aims at the following objectives:
1. Students will be familiar with the basic Grammar concepts and common medical vocabulary.
2. Students will be able to demonstrate effective reading and listening skills.
3. Students will be able to demonstrate effective speaking and writing skills.

Unit	Course Content	Instruction Hours
I	**Language Mechanics** 1. Articles, Parts of Speech 2. Tenses: Types of Past, Present, & Future Tenses 3. Subject-Verb Agreement, Capitalization & Punctuation 4. Medical Vocabulary: Words commonly used in the medical field	15
II	**Listening and Reading Skills** 1. Types of Listening Skills: Listening for specific information, gist, prediction, & inference 2. Listening Comprehension Practice: Listening to conversations, interviews, news, & speeches 3. Types of Reading Skills: Skimming, scanning, intensive reading, and extensive reading 4. Reading Comprehension Practice: Read newspapers, information brochures, and books	15
III	**Speaking Skills** 1. Errors in Pronunciation: Common mistakes in pronouncing difficult words 2. Pronunciation Practice: Producing correct sounds in English and clarity in pronunciation 3. Conversation Skills: Spoken English and day-to-day interaction 4. Speaking Practice: Discussion and giving a speech	15
IV	**Writing Skills** 1. Paragraph construction: Topic sentence, supporting details, and closing sentence 2. Letter Writing: Drafting formal and informal letters and emails 3. Report Writing: Drafting official reports 4. Essay Writing: Introduction, thesis statement, body paragraphs, conclusion	15

Recommended Readings:

1. Doff, A. (2014). *B1 plus intermediate coursebook English unlimited*, special edition. Cambridge University Press.
2. Ludlow, R. & Panton, F. (1995). *The essence of effective communication*. Prentice Hall of India Pvt. Ltd.

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Non-Skill Paper - 6) Basic Computers and Information Technology (Theory)

Credits – 03

Objective- To Develop a basic understanding of computes and their role in the practice of modern medicine.

Unit 1)

Jhon Von Neumann Architecture, different types of computer Hardware, CPU, Input Devices, Out put devices, Storage Devices, Communication Devices, Configuration of hardware devices and their application, convert decimal to binary and vice versa.

Unit 2):

Networking- Basic idea of local Area Network (LAN), MAN wide area network (WAN) E-mail, browsers and servers, multimedia, operating system: software needs, application software, programming language, artificial intelligence, windows, print, control panel, paint, calculator, desktop, find, run, snipping tool, sticky note, word pad, notepad, gadgets, windows defender, firewall.

Unit 3)

Microsoft- word commands, formatting text and documents, sorting and tables, background images, hyper links, Mail merge, Graphics, columns, smart art, spelling & grammar, Thesaurus, Translate, watermarks, borders, Drop Cap.

Unit 4)

Microsoft Excel-Conditional formatting, Formulas, Functions, Fill features, Sort& Filter, Wrap text, Merge & Center.Insert - Tables, Illustration, charts, Links, Text, Background, Remove duplicates. Microsoft power point- Designs, slid transition, Smart Art, animation hyper links, automatic slide advance, background images.

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Non-Skill Paper - 6) Basic Computers and Information Technology

(Lab/Practical)

Credits – 01

---

1. Microsoft Word
2. Microsoft power point
3. Microsoft Excel
4. Microsoft Access.

B. Voc. (Emergency & Trauma Care Technology)

SEMESTER-I

(Non-Skill Paper - 7) ISLAMIYAT (Theory)

Credits – 02
