Curriculum for Diploma in Medical Technology of Occupational Therapy

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September 2022

Curriculum for Diploma in Medical Technology of Occupational Therapy

Compiled by & edited by-

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Mohakhali, Dhaka

Supported by-

Bangladesh Health Professions Institute (BHPI)

Preface

Curriculum is a formal plan of educational experiences and activities offered to a learner under the guidance of an educational institution. Curriculum in fact is an organised plan of course outlines, along with the objectives and learning experiences to be used for achievement of these activities. With increasing public expectations about the health care services, specially in the emergency & pandemic situation like COVID 19 the quality of care itself is under scrutiny all over the world. Therefore a positive change is needed in the role of Medical Technologists. The role of teachers and students in teaching and learning to bring a positive changes in allied health professionals education also needs to be reviewed and further developed to make it more competency based.

This revised Health Technology (HT) competency based curriculum has been developed and scientifically designed, making it responsive to the needs of the learners and focussed towards the need of the stakeholders and country. The present HT curriculum with its assessment method is expected to effectively judge competencies acquired with those which are required to cater the health needs of our people. It is gratifying to note that all concerned in the promotion of allied health science in the country have involved themselves in the planning and formulation of this competency based & community oriented need-based curriculum.

More emphasis has been given on ethics, communication skills, behavioural science, basic computer science, communicative English, primary health care, climate change, environment and sanitation. Total duration of the curriculum has been increased from 3 years to 4years. List of competencies have been identified to acquire those by the provision of logbook based hands on training in this curriculum. Though the curriculum is not the sole determinants of the outcome, yet then it is very important as it guides the faculty members in preparing their instruction, tells the students where to go, what to do and what knowledge, skills and attitude they are expected to develop.

In conclusion, I would like to state that, the curriculum planning process should be continuous, dynamic and never-ending. If it is to serve best, the needs of the individual students, educational institutions and the expectations of people community to whom we are ultimately accountable, are required to be evaluated and given due attention.

I congratulate all who were involved in designing and developing the competency based curriculum, particularly the Director (Research, Publication, Curriculum Development), ADG (ME) & Directors of DGME, Secretary, SMFB, members of the working group and the involved faculty members of CME. My special thanks to all others who were involved in the development of this curriculum.

Prof AKM Amirul Morshed
Director General
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Foreword

Curriculum development is not a static process rather it is a dynamic process. But it was also said that “It is easier to change a graveyard than to change a curriculum”. This curriculum was developed a few years back in 2009, but it was needed to be updated to make it more technology oriented students centred and competency based.

Initially there were policy level meetings and meeting of the Curriculum Working Group of different disciplines/courses from Institute of Health Technologies (IHTs) to prepare a draft curriculum. Subsequently, in order to develop a consensus, decision was taken to hold review workshops through active participation of different groups of faculty members. A taskforce group examined the revised curriculum to give it a final shape.

The revised Curriculum for Health Technology (HT**)** is expected to be implemented for the newly admitted students of the next session. The success of this curriculum, which is made more competence based and need-based, depends on its proper implementation with active leadership of the ME&FWD, MOH&FW, DGME, SMFB, Principals & Teachers of IHT with interactive participation of students.

It is expected that this curriculum will serve as present day guideline for the students of IHT and its faculty members. In order to ensure further improvement, this curriculum needs constant review and revision with time to time updating.

My sincere thanks to Prof AKM Amirul Morshed Khasru, Director General (In charge), DGME for his guidance & supervision with their team involving ADG (ME) and all the Directors of DGME. I like to thank all the members of working committee of IHT Curriculum Development Committee for their continuous technical assistance and co-ordination to prepare this curriculum. The technical team comprising the faculty members of the Centre for Medical Education (CME), SMFB, DGME deserve special appreciation.

Lastly, I would like to extend my deep and sincere gratitude to all Principals & Teachers of different IHTs, subject experts, faculty members and others computer and secretarial support staff of CME & DGME who shared their expertise and worked hard to produce this valuable document.

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Acknowledgement

This is indeed a pleasant responsibility to bring out this curriculum on Diploma in Health Technology course, which has been developed through a participatory approach by a team of policy peoples, teachers of IHTs and medical educationists. It aims to review and update the Health Technology (HT) curriculum.

I would like to express my deep gratitude to Prof AKM Amirul Morshed Khasru, Director General (In charge), DGME for his overall supervision in this activity along with ADG (Admin), ADG(ME) & Directors of DGME, under the leadership of whom the plan of reviewing and updating the IHT curriculum has been materialized, and who provided immense support and encouragement to finish the work.

I am grateful to all the resource persons/teachers from different institutes, subject experts, Principals of IHT specially the faculty of Center for Medical Education (CME), DGME & SMFB who devoted their immense efforts, time and hard work to develop this curriculum. My special thanks to Professor Dr. Md. Humayun Kabir Talukder, Director (Research, Publication & Curriculum Development), DGME working & co-ordinator, IHT curriculum reviewing & updating committee for his continuous efforts without which it would not have been possible to complete this work. My thanks to all other faculty members & staffs of DGME, SMFB & CME, who were involved directly or indirectly in preparation of this curriculum.

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List of Content

Course Overview

Course Aims:

To prepare Medical Technologists (Occupational Therapy) with proper explained knowledge, skill and attitude to bring about behavioural changes for enabling them to perform assigned responsibilities of Medical Technologists in Occupational Therapy departments of health institutes like hospitals, rehabilitation centres, health complexes, clinics, schools, eldercare homes, day-centre and occupational therapy centres/clinic to achieve the desired goal.

Course Objectives:

A. *General*

After successful completion of the four (04) years Diploma course in Medical Technology (Occupational Therapy), the students will be able to:

- Demonstrate sound knowledge and activities related to Occupational Therapy.
- Develop skills in operating and maintaining the different Occupational Therapy equipment and accessories.
- Develop skills in maintaining essential documentation related to Occupational Therapy.
- Understands the hazards of handling Occupational Therapy instruments and their protective measure.
- Contribute to the future development and plan of Occupational Therapy activities in Bangladesh.

B. *Specific*

- Analyse and assess physical, psychological, social, emotional and environmental factors of patient's needs from an Occupational Therapy perspective.
- Evaluate the effectiveness of the total procedure and the therapeutic programme as necessary to meet revised objectives according to patients' progress.
- Plan a therapeutic programme which permits the achievement of therapeutic objectives.
- Promote positive good health and prevent disease and disability.
- Inform the public and other health care team members about the role and scope of Occupational Therapy.
- Demonstrate values and attitudes consistent with high standards of ethical and professional conduct.
- Develop and maintain educational and therapeutic skills on a lifelong basis.
- Contribute to the future development of Occupational Therapy.

Course Details

A. Course Title: Diploma in Medical Technology (Occupational Therapy)

B. Course philosophy and rational

The course of Occupational Therapy will help to develop skilled manpower in the field of Occupational Therapy. The Medical Technologists in Occupational Therapy will play a vital role in helping the disabled and handicapped people.

C. Conditions for entrance

1. Qualifications & prerequisite:
   i) SSC Science or equivalent with Science with Physics, Chemistry and Biology.
   ii) The candidate has to secure the required grade points in the SSC examinations which will be decided by the concern competent authority.
   iii) Candidate passed the SSC examination in the current Year and previous 3rd Year is eligible for admission or as decided by the authority for each year of admission.

D. Examinations for Entrance/Admission Test

All candidates are to sit for admission tests through prescribed rules and examination methods as specified in the advertisement. Selection of the candidates will be done on a merit basis as based on marks obtained in the admission test.

Despite the general merit in consideration for selection the reserved quota for different groups of applicants as specified in the advertisement shall be maintained on the merit basis for the respective reserved quota as well. Candidates selected for admission will have to appear before the Medical Boards as organized by the respective Institute of Health/ Medical Technology.

Course structure and duration

The total duration of the course will be 4 years.

The course will be of four years duration. The total period is divided into 4 parts-1st year, 2nd year, 3rd year and 4th year. In each, there will be 40 weeks of teaching and learning at the end of which there will be a year final examination. Supplementary examinations will be held within 6 months of the year final examination.

Year	Duration
1st Year	12 months
2nd Year	12 months
3rd Year	12 months
4th Year	12 months

NB: All academic activities including the yearly faculty examination of each phase must be completed within the specified time of the phase.

NB: Total duration for completion of the four years (4) course will be 7 years after admission in 1st year.

E. Distribution of the papers with teaching/learning hours as per year wise

1st Year

Exams	Papers	Subjects	Lecture (in hours)	Tutorial (in hours)	Institutional Academic Lab-based Practical Training/ Demonstration (in hours)	Formative Exam		Summative exam		Total Hours
						Preparatory leave	Exam time	Preparatory leave	Exam time	
Teaching-learning both formative & summative assessment	I	English	66	34	-	7 days	10 days	10 days	15 days	100
	II	Basic Human Anatomy	70	60	70					200
	III	Basic Human Physiology	75	60	65					200
	IV	Basic Community Medicine & Behavioral science	150	50	-					200
	V	Basic Computer Science	25	-	75					100
		Total	**386**	**204**	**210**	**17 days**		**25 days**		**800**
		Grand total	**800 hours**			**42 days**				**800 hours**

2nd year

Exams	Papers	Subjects	Lecture (in hours)	Institutional Academic Lab-based Practical Training/ Demonstration (in hours)	Formative Exam		Summative exam		Total Hours
					Preparatory leave	Exam time	Preparatory leave	Exam time	
Teaching-learning both formative & summative assessment	I	Physics	40	30	7 days	10 days	10 days	15 days	70
	II	Chemistry	80	20					100
	III	Basic Microbiology & Parasitology	80	20					100
	IV	Basic Occupational Therapy	100	150					250
	V	Occupational Therapy in Paediatrics	100	200					300
		Total	**400**	**420**	**17 days**		**25 days**		**820**
		Grand total	**820 hours**		**42 days**				**820 hours**

3rd year

Exams	Papers	Subjects	Lecture (in hours)	Institutional Academic Lab-based Practical Training/ Demonstration (in hours)	Formative Exam		Summative exam		Total Hours
					Preparatory leave	Exam time	Preparatory leave	Exam time	
Teaching-learning both formative & summative assessment	I	Occupational Therapy in Adaptation Design & Ergonomics	100	150	7 days	10 days	10 days	15 days	250
	II	Occupational Therapy in Management	100	150					250
	III	Occupational Therapy in Psychiatry & Psychosocial Rehabilitation	100	150					250
		Total	**300**	**450**	17 days		25 days		750
		Grand total	**750 hours**		**42 days**				**750 hours**

4th Year

Exams	Papers	Subjects	Lecture (in hours)	Institutional Academic Lab-based Practical Training/ Demonstration (in hours)	Special attachment at relevant lab-based advance training (in hours)	Formative Exam		Summative exam		Total Hours
						Preparatory leave	Exam time	Preparatory leave	Exam time	
Teaching-learning both formative & summative assessment	I	Occupational Therapy in Neurology	100	150	150	7 days	10 days	10 days	15 days	400
	II	Occupational Therapy in Orthopedics	100	150	150					400
		Total	**200**	**300**	**300**	17 days		25 days		**800**
		Grand total	**800 hours**			**42 days**				**800 hours**

F. Teaching & learning methods, media, and faculty members

The following teaching and learning methods will be followed:

1. Large Group Teaching Lecture aided by –
   - Multimedia
   - Computer
   - Chalk board
   - OHP/ Slide projector
   - Handouts

2. Small-Group Teaching-
   - Tutorial/ Demonstration
   - Students' interaction

3. Practical session-
   - Use of practical manual Chalk board
   - Performing the task/examination by the student
   - Writing the practical notebook
   - Logbook

4. Lab Placement-
   - In small groups for performing activities by the student with supervision

5. Faculty members-
   - Subject-oriented teacher (Professor/Associate professor/Assistant professor/Lecturer/Instructor will be eligible to perform lecture/theoretical class.
   - Subject-oriented instructors will be eligible to perform practical/demonstration classes.

G. Assessment

- The examination will be held on the month of January & July of every year.

Assessment Methods:

- There will be in-course/formative (card/item) and end-course/summative (terminal) assessments for the students in each part (1^{st}, 2^{nd}, 3^{rd} & 4^{th} year) of the course i.e. formative and year final examination.
- There will be year final examination at the end of each academic year and one supplementary examination 6 months after each regular year-final examination.
- Formative assessment will be done through items and cards ending the exam.

In the year-final examination marks allocation will be as follows:

- 50% from the year-final written examination.
- 10% from the formative examinations (Card final examination/Item marks).
- 40% from the oral and practical examinations.
- In written assessment, Short Answer Question (SAQ) and Multiple choice question (MCQ)-true/false, in practical, along with traditional objective structure practical examination (OSPE) & in oral, structure oral examination (SOE) will be utilized.

Eligibility for appearing in the year-final examination

- Certificate from the respective head of institutes regarding students obtaining at least 75% attendance in all aspects (theory, practical, tutorial, residential field practice) during one academic year.
- Obtaining at least 50% marks in the formative examinations.
- No objection Certificate from the respective head of institutes regarding taking part in any activities contrary to the discipline of the institute.
- No student shall be allowed to appear in the Year II, Year III and Year IV Final examinations unless the student passes all the subjects of the 1st, 2nd and 3rd year final examinations respectively.

Carry on

- One can be eligible to attend the classes of 2nd year after passing at least 3 subjects among 5 subjects of 1st year.
- One can be eligible to attend the classes of 3rd year after passing at least 3 subjects among 5 subjects of 2nd year.
- One can be eligible to attend the classes of 4th year after passing at least 2 subjects among 3 subjects of 3rd year.

Assessment personnel

- Subject-oriented teacher (Professor/ Associate professor/ Assistant professor/Lecturer will be eligible to be an examiner, moderator and able to evaluate the examination script).
- Subject-oriented instructors will be eligible to undertake the practical examinations

Grading

Numerical percentage of Marks	GPA letter Grade	GPA Numerical Grade (Grade points)
85% and above	A^+	4
81% to less than 85%	A	3.75
76% to less than 80%	A^-	3.5
71% to less than 75%	B^+	3.25
66% to less than 70%	B	3.00
61% to less than 65%	B^-	2.75
Only 60%	C	2.50
Less than 60%	F	0

Pass Marks/Grade-C

Written Exam - 60%
Practical - 60%
Oral - 60%

The student shall have to pass written, oral, practical, and formative separately in each paper of the examination.

Results will be published in the GPA system and the number of the subjects will be reflected in the academic transcript.

H. Examinations & distribution of marks as per each year

1st Year Examination

Paper	Subjects	Written Exam	Oral Exam	Practical Exam	Formative Exam	Total Marks
I	English	75	15	-	10	100
II	Basic Anatomy	100	40	40	20	200
III	Basic Physiology	100	40	40	20	200
IV	Basic Community Medicine & Behavioral Science	100	40	40	20	200
V	Basic Computer Science	50	--	40	10	100
	Total	**425**	**135**	**160**	**80**	**800**

2nd Year Examination

Paper	Subjects	Written Exam	Oral Exam	Practical Exam	Formative exam	Total Marks
I	Physics	75	10	15	--	100
II	Chemistry	75	10	15	--	100
III	Basic Microbiology & Parasitology	100	40	40	20	200
IV	Basic Occupational Therapy	100	40	40	20	200
V	Occupational Therapy in Paediatrics	100	40	40	20	200
	Total	**450**	**140**	**150**	**60**	**800**

3rd Year Examination

Paper	Subjects	Written Exam	Oral Exam	Practical Exam	Formative exam	Total Marks
I	Occupational Therapy in Adaptation Design & Ergonomics	100	40	40	20	200
II	Occupational Therapy in Management	100	40	40	20	200
III	Occupational Therapy in Psychiatry & Psychosocial Rehabilitations	100	40	40	20	200
	Total	**300**	**120**	**120**	**60**	**600**

4th Year Examination

Paper	Subjects	Written Exam	Oral Exam	Practical Exam	Formative exam	Total Marks
I	Occupational Therapy in Neurology	100	40	40	20	200
II	Occupational Therapy in Orthopedics	100	40	40	20	200
	Total	**200**	**80**	**80**	**40**	**400**

I. This curriculum is meant for the guidance of four groups for people --

- Students to guide them in what to learn and how to learn
- Teachers to guide them in what to teach and how to teach
- Examiners to guide them in what to evaluate and how to evaluate
- Concerned policy persons to guide how to implement this curriculum with proper--
  - Governance

- Guidelines
- Faculty members with updated organogram
- Institutional academic lab
- Attached OPD
- Special lab attachment as per future job
- Appropriate students' friendly academic environment
- Teachers to be oriented about the implementation of curriculum
- Logbook to be prepared

J. Required faculty members of the concerned subject/discipline are as follows to implement this curriculum --

- Professor……..... 1
- Associate Professor..... 1
- Assistant Professor..... 2
- Lecturer..... 3
- Instructor..... 4
- Technologist..... 5

1st Year

Paper I: Subject- English

Total hours: 100 hour
Lecture: 66 hour
Practical / Tutorial: 34 hours

Total marks-100
Written-75
Oral & practical- 15
Formative 10

Objectives:

At the end of the course the students will be able to:-

- Read & write any story in English and attain HSC level English proficiency
- Show proficiency in English grammar (article, tense, voice, phrases & idioms)
- Write letters in English (private, Official etc).
- Translate & retranslate in English
- Read and write essays on different topics in English
- Develop listening skills in English
- Communicate with each other in English
- Read and write laboratory reports/findings in English
- Follow written and oral instructions in English of the seniors/authorities

List of Competencies

Ability to-

- Write Paragraph, letters, Applications & reports in English
- Show skill in reading, writing, listening & Conversations in English
- Understand & interpret any reports or manuals in English
- Read & write any story in English and attain HSC level English proficiency
- Write letters in English (private, Official etc.).
- Translate & retranslate in English
- Read and write essays on different topics in English
- Develop listening skills in English
- Communicate with each other in English

Course Contents of English (Part -I) ***Marks = 50***

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	**Tutorial**
1.	**Textbook: English for Today, Published by N.C.T.B. (Intermediate)** **Unit- Three: Learning English** 1. Learning a language 2. Why to learn English 3. How to learn English 4. Different learners, different ways 5. Dealing with grammar 6. Integrated skills development 7. How to use the dictionary **Unit-Six: Our Environment** 1. The environment and the ecosystem 2. How the environment is polluted. 3. The world is getting warmer. 4. Let's not be cruel to them. 5. Beware of pollution. 6. Forests should stay. 7. How to manage waste. **Unit-Twenty-four: People, People Everywhere** 1. What's the problem? 2. Kalim Majhee's boat. 3. The rootless. 4. Why is there discrimination? 5. 5-7. The Revenge.	16	

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	Tutorial
	Grammar **Articles** ▪ Indefinite & definite articles **Tense** ▪ Present, Past & Future tense **Voice** ▪ Active voice ▪ Passive voice ▪ Voice change **Speeches** ▪ Direct speeches ▪ Indirect speeches **Linkers** ▪ In addition ▪ Besides ▪ Moreover ▪ However ▪ Because ▪ Either or, neither nor **Idioms & Phrases:** **Subjects & predicate** **Parts of speech-** ▪ Noun & its classification ▪ Pronoun & its classification ▪ Adjective & its classification ▪ Verb-Adverb **Conjugation** **Preposition** **Punctuation (**capitalization, fragment, end, comma, semi-colon, colon, hyphen, underlining**)** **Spelling** **Wrong words** **Translation** (Bengali to English, English to Bengali), short story writing, technical description, comprehension.	22	
	Paragraph writing **Letter writing** **Application writing** **Report writing**	10	
	Telegrams & E-mail:	2	

Course Contents of English (Part -II) ***Marks = 25+25***

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	**Tutorial**
	Communicative English		
	▪ Reading skill	4	8
	▪ Writing skill	4	8
	▪ Listening skill	4	8
	▪ Conversations skill	4	10
	Total	66	34

Teaching Methods

Lecture

Practical/Tutorial/Communication

Media

Multimedia, Laptop, OHP, White Board/marker, Black board/chalk, Wall chart, VCD, DVD, CD

Assessment

Written – SAQ -75 marks

Reading, Listening & conversation-15 marks

Formative -10 marks

Paper II: Subject- Basic Anatomy

Total hours: 200 hours
Lecture: 70 hours
Tutorial: 60 hours
Practical/Demons: 70 hours

Total marks-200
Written-100
Oral-40
Practical- 40
Formative- 20

Objectives:

At the end of the course the students will be able to:-

- acquaint with the anatomical terminologies
- demonstrate a comprehensive knowledge base about the major anatomical organ, system and structure of the human body
- identify major anatomical organs, systems and structures of the human body
- identify the specific structures and organs and application of such knowledge in studying their individual disciplines.
- do the surface marking of the important organ of the human body.

List of Competencies:

Ability to-

- demonstrate a comprehensive knowledge base about the major anatomical organ, systems and structure of the human body
- identify major anatomical organs, systems and structures of the human body
- identify the specific structures and organs and application of such knowledge in studying their individual disciplines.
- do surface marking of the important organ of the human body.

Course Contents of Basic Anatomy

Sl. No	Topics/Lessons	Teaching/learning Hours		
		Lecture	Tutorial	Practical/ Demonstration
1.	**Introductory Anatomy** **a)** Anatomical Terminologies i) Definition of Anatomy ii) Anterior, Posterior, superior, inferior, medial, lateral & median plane. **b)** i) Systems of Human body ii) Human cell: structure and classification. iii) Cell division: types. Phases of mitosis iv) Tissue: Types of tissues.	10	05	10
2.	**Musculoskeletal system** ▪ component ▪ Types of bones & joints ▪ short description of important bones	10	10	05
3.	**Cardio-vascular system** ▪ Location & Basic structure of cardiovascular system ▪ Short description of heart, major arteries, capillaries/veins	10	05	10
4.	**Respiratory system** ▪ Basic structure of respiratory system ▪ Description of larynx, trachea, bronchi, bronchioles and alveoli ▪ Gross Anatomy of lung	06	06	10
5.	**Gastro-intestinal and Hepatobiliary system** ▪ Short description of the different parts of alimentary system: mouth, tongue, esophagus, stomach, small and large intestine, rectum & anal canal ▪ Anatomy of salivary glands, pancreas, liver, gall bladder	10	10	10
6.	**Genito –urinary system** ▪ Anatomy of urinary system ▪ Male genital system: ▪ Female genital system	10	10	10
7.	**Nervous system and Endocrine system** ▪ Basic structure of nervous system ▪ Parts of nervous system and short description of brain, spinal cord, cranial nerves, peripheral nerves ▪ Autonomy of nervous system and short description of sense organs-eye, ear, nose, throat, tongue and skin ▪ Important endocrine glands	12	12	10
8.	**Lymphatic System** ▪ Anatomy of lymph nodes and vessels	02	02	05
	Total	70	60	70

Teaching Methods
Lecture, Tutorial, Practical/ Demonstration

Media
Multimedia, Laptop, OHP, White Board/Marker, Black board/Chalk, Skeleton, Wall chart, Microscope

Assessment
Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral-40 marks, Formative-20 marks

Paper III: Subject- Basic Physiology

Total hours: 200 hours
Lecture:75 hours
Tutorial: 60
Practical: 65

Total marks-200
Written-100
Oral -40
Practical- 40
Formative- 20

Objectives:

At the end of the course the students will be able to:-

- Demonstrate a comprehensive knowledge on functional aspects of different important components, organs, and systems of human body.
- Apply the practical knowledge of human physiology in studying and performing the allotted tasks in their individual discipline.

List of Competencies:

Ability to-

- Ability to demonstrate a comprehensive knowledge on functional aspects of different important components, organs and systems of human body.
- Ability to apply the practical knowledge of human physiology in studying and performing the allotted tasks in their individual discipline.

Course Contents of Basic Physiology

Sl. No	Topics/Lessons	Teaching/learning Hours		
		Lecture	Tutorial	Practical/ Demonstration
1.	**Introductory Physiology:** ▪ Physiological terminologies ▪ Basic structure and organizations of human body ▪ Cell physiology and metabolism/multiplication of living cells ▪ General functions of different systems of the body: Musculoskeletal/Respiratory/ Circulatory/Digestive/Urinary/Nervous/ Endocrine/Immune/ Reproductive	10	04	10
2.	**Musculoskeletal system:** ▪ Physiological components of musculoskeletal system ▪ Functions of important muscles, bones & joints of human body ▪ Movements of joints	10	10	05
3.	**Cardiovascular System:** ▪ Functions of circulatory system ▪ Composition of Blood and their Functions ▪ Conductive system of heart & Cardiac cycle ▪ Physiology of Blood Pressure	10	05	10

Sl. No	Topics/Lessons	Teaching/learning Hours		
		Lecture	Tutorial	Practical/ Demonstration
4	**Respiratory system:** ▪ Functions of respiratory system ▪ Mechanism of breathing	05	05	10
5	**Digestive and hepatobiliary system:** ▪ Definition of digestion, absorption, metabolism ▪ Digestion, absorption & metabolism of carbohydrate, fat & protein ▪ Nutritional deficiency disorders: anemia, iodine deficiency, vitamin deficiencies ▪ Functions of liver, pancreas and gall bladder ▪ Composition & functions of different digestive juices & bile	10	10	10
6	**Genitourinary system:** ▪ Functions of Kidney ▪ Formation, appearance, and composition of urine ▪ Functions of reproductive organs of both sexes: uterus/ovary/fallopian tube/vagina/penis/testes/scrotum/vas deferens/prostate	10	10	10
7	**Nervous system, organs of special sense:** ▪ Functions of motor, sympathetic & parasympathetic nervous system ▪ Functions of cranial nerves ▪ Cerebrospinal fluid formation, composition & function ▪ Functions of special sense organs-eye, ear, nose, tongue, and skin ▪ Functions of the endocrine glands & hormones secreted by them: Pituitary /thyroid / parathyroid / adrenal /gonads/pancreas/placenta	12	10	10
8	**Immune System:** ▪ Definition/classification and components of immune system ▪ Cells and tissues of immune system & their functions	05	05	
9	**Lymphatic System:** ▪ Structure & functions of lymph nodes and vessels	03 05	01	
	Total	75	60	65

Teaching Methods

Lecture, Tutorial, Practical/ Demonstration

Media

Multimedia, Laptop, OHP, White Board/Marker, Black board/chalk, Wall chart, Lab. Reagent & Apparatus, Microscope

Assessment

Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral-40 marks, Formative-20 marks

Paper IV : Subject– Basic Community Medicine & Behavioural Science

Total hours: 200 hour
Lecture: 150 hour
Practical/ Tutorial: 50 hours

Total marks-200
Written-100
Oral-40
Practical- 40
Formative- 20

Objectives:

At the end of the course the students will be able to-

- describe the general aspects of community medicine
- describe the basic concepts of epidemiology
- explain the concept of primary health care
- define organizations of health services and major health program in Bangladesh
- carry on elementary biostatistics
- describe the concept of Demography and Family Planning
- define Maternal and Child Health (MCH), describe its objectives and explain the importance of ante-natal and post-natal care for mother and children
- define food and nutrition and be aware of nutritional problems in Bangladesh
- acquaint themselves with occupational health hazards and their preventive and protective measures
- describe the principles of health education and their application in the community
- acquaint themselves with environmental pollution and methods of prevention and control of pollution
- explain the basic concept of Essential Service Package (ESP)

List of Competencies:

Ability to -

- describe the general aspects of community medicine
- describe the basic concepts of epidemiology
- explain the concept of primary health care
- define organizations of health services and major health program in Bangladesh
- carry on elementary biostatistics
- describe the concept of Demography and Family Planning
- define Maternal and Child Health (MCH), describe its objectives and explain the importance of ante-natal and post-natal care for mother and children
- define food and nutrition and be aware of nutritional problems in Bangladesh
- acquaint themselves with occupational health hazards and their preventive and protective measures
- describe the principles of health education and their application in the community
- acquaint themselves with environmental pollution and methods of prevention and control of pollution
- explain the basic concept of Essential Service Package (ESP)

Course Contents of Basic Community Medicine

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	Practical/ Demonstration
1.	**Introductory community medicine:** ▪ Definition of Community Medicine ▪ Concept of health: Definition / Dimensions / Spectrum / Determinants / Indicators ▪ Concept of general principles for prevention and control of communicable and non-communicable diseases ▪ Concept of health promotion: Definition / Interventions	16	10
2.	**Primary health care:** ▪ Definition/Elements/ Principles/Scope	05	02
3.	**Health care services and organization:** ▪ Primary/Secondary/Tertiary Health Care services ▪ WHO/UNDP/UNICEF/CARE/ International Red Crescent/ BIRDEM/ ICDDR,B	06	02
4.	**Basic Epidemiology:** ▪ Definition /Aims/Methods/Scope ▪ Definition of epidemiological terms eg. Epidemic/Endemic/Pandemic/Sporadic/ Zoonotic disease/ Incubation period/ period of communicability/ Epidemiological Triad/ Infection/ Contamination/ Infestation etc. ▪ Major health programs in Bangladesh ▪ Medical Information system (MIS)	12	06
5.	**Basic Biostatistics:** ▪ Definition /Scope/Functions/Importance and uses of Biostatistics, Medical statistics, Health statistics, Vital statistics ▪ Definition of vital events ▪ Definition/types/characteristics/functions/importance/sources/collection and presentation of data ▪ Morbidity/Mortality/Fertility statistics	17	04
6.	**Demography and family planning**. ▪ Demography: Definition/Focus/Process/Stages/Cycle and how to conduct census ▪ Family Planning: Definition/ Objectives/ Scope/Health aspects/Benefits ▪ Contraceptive methods- Short description/ Advantages/ Disadvantages/ Indications/ Contraindications/ Complications	12	04
7.	**Maternal and Child Health Care (MCH):** ▪ Introduction/Definition/Aims & Objectives / Components of MCH ▪ Maternal health care: Antenatal/Intra natal/Postnatal ▪ Care of the New-born/Under 5 children ▪ Indicators of MCH care: MMR, IMR etc	10	
8.	**Food and nutrition:** ▪ Food: Definition/Functions/Classification ▪ Sources/types/functions/daily requirements and deficiency of protein, fat, carbohydrate, vitamins and minerals ▪ Definition of nutrition /Balanced Diet ▪ Malnutrition: Definition/Forms/Causes and prevention ▪ Common nutritional problems of Bangladesh: low Birth Weight/Protein Energy Malnutrition/ Nutritional Blindness/ Nutritional Anemia/ Lathyrism	15	06

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	Practical/ Demonstration
9.	**Occupational Health:** ▪ Occupational health: Definition /Objectives ▪ Occupational Hazards: Introduction /Types ▪ Occupational diseases: Definition/Classification/Prevention and control	08	02
10.	**Health education behavioral science and Ethics:** ▪ Health Education: Definition/Importance / Objectives / Components/ Principles/Methods /Media ▪ Communication Skills: Definition/Key elements /Barriers ▪ Behavioral Science: Introduction & concept ▪ Ethics: Introduction and concept	12	04
11.	**Environment and sanitation:** ▪ Definition of environment, pollution, sanitation, and environmental sanitation ▪ Water: Safe wholesome water/Source of water/water pollution/Hazards of water pollution /water borne diseases/Hardness of water/ Purification of water ▪ Air: Definition/Composition ▪ Air pollution: Sources, pollutants, indicators, health & other effects, prevention & control ▪ Ventilation: Definition/Standards/ Types/ Criteria of good ventilation / effects of good ventilation ▪ Solid waste: Definition/Types/Sources/Health hazards ▪ Disposal of solid waste: Dumping/Controlled tipping or sanitary land fill/ incineration/ composting/Manure pits/Burial ▪ Excreta or night soil: Public health importance/Health hazards/how disease occurs from it/Sanitation Barrier/ Methods of excreta disposal (Unsewered area/Sewered area)	25	04
12.	**First Aid:** ▪ Definition / Principles of First Aid ▪ First Aid Box-List of contents and their uses ▪ First Aid of: Cuts, bleeding, burn, shock, dog bite, snake bite	12	06
	Total	150	50

Teaching Methods

Lecture, Tutorial, Practical/ Demonstration

Media

Multimedia, Laptop, OHP, White Board/Marker, Black board/chalk, Wall chart, Models & Samples

Assessment

Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral-40 marks, Formative-20 marks

Paper V: Subject- Basic Computer Science

Total hours: 100 hour
Lecture: 25 hour
Practical / Tutorial: 75hours

Total marks-100
Written-50
Practical- 40
Formative-10

Objectives:
At the end of the course the students will be able to: -

- acquaint with the modern computer technology
- start**,** Shutdown and restore the windows
- open, close & edit the file
- develop skills in ms word, ms-excel, power point, internet
- create chart, graph , tables etc.
- install different programs & software
- prepare reports of various investigations
- do internet browsing & other applications of internet

List of Competencies
Ability to--

- deal with the modern computer technology
- show skills in ms word, ms-excel, power point
- prepare reports of various investigations
- internet browsing & other applications of internet

Course Contents of Basic Computer Science

Sl No	Topics/Lessons	Teaching/learning Hours	
		Lecture	Tutorial/ Practical
1.	**Detailed Contents:** **Relevant Instruction for Practical:** ▪ Information Technology -its concept and scope ▪ Computers for information storage, information seeking, information processing and information transmission ▪ Elements of computer system - computer hardware and software: data -numeric data, numeric data; contents of program, processing ▪ Computer organization, block diagram of a computer, CPU, memory ▪ Input devices; keyboard, mouse etc; output devices; VDU and Printer, scanner, Plotter ▪ Electrical requirements, inter-connections between units, connectors, and cables ▪ Secondary storage; magnetic disks-tracks and sectors, optical disk (CD and DVD Memory), primary and secondary memory: RAM, ROM, PROM etc. ▪ Capacity; device controllers, serial port, parallel port system bus 47 ▪ Exercises on file opening and closing; memory management; device management; device management and input-output (I/O) management with respect of windows ▪ Installation concept and precautions to be observed while installing the system and software ▪ Introduction about Operating systems such as and Windows ▪ Special features, various commands of MS word and MS- Excel, Power -point ▪ About the internet-server types, connectivity (TCOP/IP, shell); applications of internet like: e-mail and browsing ▪ Various Browsers like WWW (World wide web); hyperlinks; HTTP (Hyper Text Transfer Protocol); FTP (File Transfer Protocol) ▪ Basic of Networking -LAN, WAN, Topologies	25	
	▪ Give a PC, name its various components and list their functions ▪ Identification of various parts of a computer and peripherals ▪ Practice in installing a computer system by giving connection and loading the system software and application software ▪ Installation of DOS and simple exercises on TYPE, REN, DEL, CD, MD, COPY, TREE, BACKUP commands ▪ Exercises on entering text and data (Typing Practice) ▪ Installation of Windows 98 or 2000 etc. ▪ Features of windows as an operating system ▪ Start ▪ Shutdown and restore ▪ Creating and operating on the icons ▪ Opening, closing, and sizing the windows ▪ Using elementary job commands like-creating, saving, modifying, finding, and deleting a file ▪ Creating and operating on a folder ▪ Changing setting like, date, time color (background and fore ground) ▪ Using short cuts ▪ Using online help		

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	Tutorial/ Practical
	▪ MS-WORD ▪ File Management Opening, creating, and saving a document, locating files, copying contents in some different file (s), protecting files, Giving password protection for a file ▪ Page set up: Setting margins, tab setting, ruler, indenting ▪ Editing a document: Entering text, Cut, copy, paste using toolbars ▪ Formatting a document: Using different fonts, changing font size and color, changing the appearance through bold/italic/underlines, highlighting a text, changing case, using subscript and superscript using different underline methods ▪ Aligning of text in document, justification of document, Inserting bullets and numbering: ▪ Formatting paragraph, inserting page breaks and column breaks ▪ Use of headers, footers: Inserting footnote, end note, use of comments ▪ Inserting date, time, special symbols, importing graphic images, drawing tolls ▪ Tables and Borders Creating a table, formatting cells, use of different border styles, shading in tables, merging of cells, partition of cells, inserting and deleting row in a table ▪ Print preview, zoom, page set up, printing options ▪ Using Find, Replace options ▪ Using Tools like: Spell checker, help, use of macros, mail merge, word content and statistics, printing envelops ▪ Using shapes and drawing toolbar ▪ Working with more than one window in MS Word, ▪ How to change the version of the document from one window OS to another ▪ Conversion between different text editors, software, and MS word		30

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	Tutorial/ Practical
	MS -Excel: ▪ Starting excel, open worksheet, enter, edit, data, formulas to calculate values, format data, create chart, printing chart, save worksheet, switching from another spread sheet ▪ **Menu Commands:** Create, format charts, organize, manage data, solving problem by analyzing data, exchange with other applications. Programming with MS Excel, getting information while working ▪ **WorkBooks:** Managing workbooks (create, open, close, save) working in workbooks, selecting the cells, choosing commands, data entry techniques, formula creation and links, controlling calculations, working with arrays ▪ Editing a worksheet, copying, moving cells, pasting, inserting, deleting cells, rows, columns, find and replace text, numbers of cells, formatting worksheet**:** ▪ **Creating a chart:** Working with chart types, changing data in the chart, formatting a chart, use the chart to analyze data ▪ **Using a list to organize data, sorting and filtering data in list** ▪ **Retrieve data with MS -Query: Create a pivot table and customizing a pivot table. Statistical analysis of data.** ▪ **Customize MS-Excel:** How to change the view of the worksheet, outlining a worksheet, customize the workspace, using templates to create default workbooks, protecting work ▪ **Exchange data with other applications: linking and embedding, embedding objects, linking to other applications, import, export document**		20
	Power Point: ▪ Making Slide following the rules & principles ▪ Slide Projection		10
	Internet and its Applications: ▪ Log -into the internet ▪ Navigation for information seeking on the internet ▪ Browsing and downloading of information from the internet ▪ Sending and receiving e-mail ▪ Creating a message ▪ Creating and address book ▪ Attaching a file with the e-mail message ▪ Receiving a message ▪ Deleting message		15
	Total=	**25**	**75**

Teaching Methods: Lecture, Practical

Media: Computer, Multi media, Computer lab., Internet connection, White Board, Marker

Assessment: Written – SAQ- 50 marks
Oral and Practical – 40 marks
Formative – 10 marks

2nd Year

Paper I : Subject - Physics

Total hours: 70 hour
Lecture : 40hour
Practical/Tutorial: 30 hours

Total marks -100
Written – 75
Oral -10
Practical - 15

Objectives:

At the end of the course, the students will be able to-

- define Physics and state the importance of Physics in the Health Care System
- describe the different systems of measurement and weights
- demonstrate basic knowledge on measurement of density and specific gravity of a substance
- demonstrate basic knowledge on fundamental aspects of heat and temperature, sound, light, electricity and magnetism

List of Competencies:

Ability to

- define Physics and state the importance of Physics in the Health Care System
- describe the different systems of measurement and weights
- demonstrate basic knowledge on measurement of density and specific gravity of a substance
- demonstrate basic knowledge on fundamental aspects of heat and temperature, sound, light, electricity and magnetism

Course Contents of Physics

Sl.No	Topic/Lessons তত্ত্বীয়	Teaching/Learning Hours	
		Lecture	Practical
১।	**বলবিদ্যা ও পদার্থের ধর্ম ঃ** ➢ সরল রেখার গতি, গতির সমীকরণ, নিউটনের গতির সূত্র ত্বরণ ও বল, খাত বল, ভেকটর ও সেলের রাশি। ➢ কৌণিক গতি, কৌণিক বেগ ও ত্বরণ বৃত্তাকার পথে গতি, কেন্দ্রভিগ বল। ➢ কাজ, ক্ষমতা ও শক্তি, শক্তির সংরক্ষণ নীতি। ➢ সরল দোল গতি, সরল দোলক ➢ আর্কিমিডিসের সূত্র ও তার প্রয়োগ আপেক্ষিক গুরুত্ব নির্ণয়।	০৮ ঘন্টা	
২।	**তাপ ঃ** তাপমিতি, তাপের একক, আপেক্ষিক তাপ, তাপীয় ক্ষমতা পানিসমও সুপ্ততাপ এবং ইাহাদের নির্ণয় পদ্ধতিঃ সরলীয় পদ্ধতিতে তাপের পরিবাহিতা নির্ণয়।	৫ ঘন্টা	
৩।	**শব্দ ঃ** ➢ শব্দের উৎপত্তি ও শব্দ সালন, আড় তরঙ্গ ও দীঘল তরঙ্গ শব্দের ব্যভিচার ও বীট। বীটের সাহায্যে কম্পন সংখ্যা নির্ণয়। ➢ শব্দের বেগ নির্ণয়। ➢ টানা তারের আড় কম্পন, সূত্রের প্রমাণ।	৫ ঘন্টা	

৪।	**আলোক ঃ** ➢ গোলীয় পৃষ্ঠে প্রতিফলন। ➢ সমতল ও গোলীয় পৃষ্ঠে প্রতিফলন। সম্পূর্ণ প্রতিফলন, প্রতিসরাংক, প্রিজম প্রতিসারণ। ➢ লেন্সঃ উত্তল ও অবতল লেন্স। লেন্সের শক্তি ও বিবর্ধন লেন্স সংযোজন। চোখের ত্রুটি সমূহ ও প্রতিকার। ➢ আলোক যন্ত্র-মাইক্রোস্কোপ।	৫ ঘন্টা	
৫।	**চুম্বক ঃ** ➢ চুম্বকনের বিভিন্ন পদ্ধতিঃ চুম্বকের মতবাদ, চুম্বকের ক্ষেত্র ও প্রবাল্য। বিপরীত বর্গীয় সূত্র প্রান্তমূখী ও প্রষ্ঠমূখী অবস্থানে চুম্বকের প্রাবল্য। বিক্ষেপী চুম্বকমান যন্ত্র ও ইহার ব্যবহার। ➢ ভুচুম্বকত্ব।	৪ ঘন্টা	
৬।	**তড়িৎ ঃ** ➢ স্থির তরিৎ, চার্জের অস্তিত্ব ও প্রকৃতি নির্ণয়। বৈদ্যুতিক আবেশ, কুলম্বের সূত্র, ধারকত্ব, তড়িৎ বিভব। সমান্তরাল পাত ধারক। ➢ বিদ্যুৎ কোষ, তাদের কেন্দ্রে উৎপন্ন চুম্বকক্ষেত্র। বিদ্যুৎ প্রবাহ ও চার্জের একক। ➢ ওহমের সূত্র, বিভব বৈষম্যের একক। রোধ ও আপেক্ষিক রোধ, রোধের একক, রোধ সংযোজন, এমিটার, ভোল্ট মিটার। ➢ বৈদ্যুতিক পরিমাপ, হুইট স্টোম ব্রিজ, মিটার ব্রিজ, পোস্ট অফিস বক্স ও পাটেন শিও মিটার। ➢ তড়িৎ প্রবাহ ও উত্তাপ, জুলের সূত্র, বৈদ্যুতিক পদ্ধতিতে নির্ণয়। ➢ তড়িৎ প্রবাহে রাসায়নিক ক্রিয়া, তড়িৎ বিশেষণ, সূত্র ও ইহাদের প্রমাণ। ➢ তড়িৎ চুম্বকীয় আবেশ।	১৩ ঘন্টা	
	ব্যবহারিক	৪০	

Sl.No	**Topic/Lessons**	**Teaching/Learning Hours**	
		Lecture	**Practical**
৭।	**১। স্লাইড ক্যালিপার্স, স্ক্রুজ ও স্পেরোমিটারের ব্যবহার শিক্ষা।**		৩ ঘন্টা
	২। পানি অপেক্ষা হালকা/ভারি তরল ও কঠিন পদার্থের হাইডো-স্টেটিক ব্যালেন্স, নিকলসন হাইড্রেমিটার ও আঃ হাইড্রো বোতলের সাহায্যে আপেক্ষিক গুরুত্ব নির্ণয়।		৩ ঘন্টা
	৩। সরল দোলকের সাহায্যে জি এর মান নির্ণয়।		৩ ঘন্টা
	৪। একটি ক্যালরিমিটারের সাহায্যে পানিসম নির্ণয়।		২ ঘন্টা
	৫। কঠিন ও তরলের আপেক্ষিক তাপ নির্ণয়।		৩ ঘন্টা
	৬। অবতল দর্পনের ফোকাস দুরত্ব নির্ণয়।		২ ঘন্টা
	৭। প্যারালাক্স পদ্ধতিতে উত্তল লেন্স ফোকাস দুরত্ব নির্ণয়।		২ ঘন্টা
	৮। একখানা কাচ ফলকের প্রতিসরাংক নির্ণয়।		৩ ঘন্টা
	৯। ওহমের সূত্রের সত্যতা নির্ণয়।		৩ ঘন্টা
	১০। যে কোন দৈর্ঘের তারে আপেক্ষিক রোধ নির্ণয়।		৩ ঘন্টা
	১১। নাল পদ্ধতিতে দুইখানা দন্ড চুম্বকের চৌম্বক ভ্রামকের তুলনা।		৩ ঘন্টা
	মোট ঃ ৭০ ঘন্টা	৪০	৩০

মান বন্টন ঃ তত্বীয় = ৬০

১। পদার্থের সাধারণ ধর্ম, আলোক ও তড়িৎঃ প্রতিটি শাখা থেকে ৮ নম্বরের দুটি ও ৪ নম্বরের ২টি করে মোট (৬টি + ৬টি)= ১২টি প্রশ্ন আকারে। তন্মধ্যে ৮ নম্বরের ১টি করে ৩ শাখায় ৩টি ও ৪ নম্বরের ১টি করে ৩ শাখার ৩ টি অর্থাৎ মোট ৬টি প্রশ্নের উত্তর দিতে হবে।

$$8 \times 1x \ 3 = 24$$
$$4 \times 1x \ 3 = 12$$

২। শব্দ ও তাপ ও চুম্বকতত্বঃ প্রতিটি শাখা থেকে ৪ নম্বরের ৪টি করে মোট ১২টি প্রশ্ন থাকবে। সেগুলোর মধ্যে থেকে ২টি করে মোট ৬টি প্রশ্নের উত্তর দিতে হবে।

$$4 \times 2x \ 3 = 24$$

দ্রষ্টব্যঃ বলবিদ্যা ও পদার্থের ধর্ম থেকে ও অন্য যে কোন শাখা থেকে ১টি পরীক্ষণ করতে হবে।

ব্যবহারিকঃ ক্লাস রেকর্ড ৯+১ নং ও ২নং পরীক্ষণ ৮ করে = ১৫ মার্কস
মৌখিক ও ফরমেটিভ = ১০, লিখিত = ৭৫ মার্কস
মোট ঃ তত্বীয়+ব্যবহারিক+মৌখিক = ১০০ মার্কস

Paper II: Subject - Chemistry

Total hours: 100 hour
Lecture: 80 hour
Practical/Tutorial: 20 hours

Total marks -100
Written – 75
Oral - 10
Practical - 15

Objectives:
At the end of the course, the students should be able to:

- describe fundamentals in physical chemistry
- explain common laboratory process
- identify organic and inorganic chemical compounds
- describe the different aspects of metals, non-metal and gaseous substances

List of Competencies:
Ability to--

- describe fundamentals in physical chemistry
- explain common laboratory process
- identify organic and inorganic chemical compounds
- describe the different aspects of metals, non-metal and gaseous substances

Course contents of Chemistry

Sl.No	Topic/Lessons	Teaching/Learning Hours	
		Lecture	Practical
	গ্রুপ -ক ভৌত রসায়ন		
	১। ভৌত ও রাসায়নিক পরিবর্তন ও এদের মধ্যে পার্থক্য।	১ ঘন্টা	
	২। পদার্থের গঠনঃ অণু ও পরমানু-অণুর সংজ্ঞা, আন্তঃআণবিক দুরত্ব, আন্তঃআণবিক, কঠিন, তরল, গ্যাস, পরমানু, পারমানবিক ও আনবিক ওজন।	৫ ঘন্টা	
	৩। সাধারণ পরীক্ষাগার প্রণালীঃ দ্রবণ, অভিস্রবণ, পরিস্রাবণ ও অতিপৃক্ত দ্রবণ, দ্রাব্যতা, বাষ্পীভবন, পাতন, আংশিক পাতন, উর্ধ্বপাতন, কেলাসন।	৪ ঘন্টা	
	৪। প্রতীক, সংকেতঃ প্রতীক, আনবিক সংকেত, যোজ্যতা, রেডিক্যাল এবং তাদের যোজনী, যোজনী থেকে আনবিক সংকেত নির্ণয়, গাঠনিক সংকেত।		
	৫। রাসায়নিক বিক্রিয়াঃ বিভিন্ন প্রকারের রাসায়কি ক্রিয়া, রাসায়নিক বিক্রিয়া ঘটানোর উপায় সমূহ।	৪ ঘন্টা	
	৬। অম্ল, ক্ষারক ও লবন।		
	৭। গ্যাসের ধর্ম-বয়েলের সূত্র, চার্লসের সূত্র।	৪ ঘন্টা	
	৮। মৌলের রাসায়নিক তুল্যাংক বা যোজন ভার।	২ ঘন্টা	
	৯। পরমানুর গঠন এবং যোজ্যতার ইলেকট্রনীয় মতবাদ।	২ ঘন্টা	
	বিভিন্ন রাসায়নিক বন্ধন।	২ ঘন্টা	
	১০। ক) এভোগ্যাড্রে সূত্র খ) ভরক্রিয়া সূত্র।	৪ ঘন্টা	
	১১। রাসায়নিক সংযোগ বিধিঃ	২ ঘন্টা	
	ক) ভরের নিত্যতা সূত্র। খ) নির্দিষ্ট অনুপাত সূত্র।	৫ ঘন্টা	
	গ) গুনানুপাত বিধি। ঘ) বিপরীত অনুপাত সূত্র।		
	ঙ) গ্যাস আয়তন সূত্র।		
	গ্রুপ -খ অধাতু ঃ		

Sl.No	Topic/Lessons	Teaching/Learning Hours	
		Lecture	Practical
	১। নিম্নোক্ত পদার্থ গুলোর উৎস, প্রস্তুতি, ধর্ম এবং ব্যবহারঃ ক) অক্সিজেন, ওজোন, পানি ও হাইড্রোজেন পার অক্সাইড। খ) হোলাজেন সমূহ ঃ ক্লোরিন, রোমিন, আয়োডিন ও হাইড্রো ক্লোরিক এসিড। গ) নাইট্রোজেন, হাইড্রোজেন সালফাইট, সালফার ডাইঅক্সাইড। ঘ) সালফার, হাইড্রোজেন সালফাইট, সালফার ডাইঅক্সাইড, সালফিউরিক এসিড। ঙ) ফসফরাস চ) জারন-বিজারনঃ জারক ও বিজারক পদার্থ ২। ধাতুঃ নিম্নোক্ত পদার্থ গুলোর উৎস, প্রস্তুতি, ধর্ম এবং ব্যবহারঃ ক) সোডিয়াম-সোডিয়াম হাইড্রোঅক্সাইড, সোডিয়াম কার্বনেট, সোডিয়াম ক্লোরাইড। খ) ক্যালসিয়াম-ক্যালসিয়াম কার্বনেট, ক্যালসিয়াম ফ্লোরাইড, ক্যালসিয়াম সালফেট, বি-চিং পাউডার। ৩। কপার -কপার অক্সাইড, কপার সালফেট, কপার ফ্লোরাইড ৪। জিংক - জিংক অক্সাইড, জিংক ফ্লোরাইড, জিংক সালফেট।	৭ ঘন্টা ৬ ঘন্টা ১ ঘন্টা ১ ঘন্টা	
	৫। এলুমিনিয়াম - এলুমিনিয়াম ফ্লোরাইড, এলুনিয়াম সালফেট। ৬। আয়রন - আয়রন সালফেট। ৭। লেড - লেড অক্সাইড। ৮। সিলভার - সিলভার নাইট্রেট।	১ ঘন্টা ১ ঘন্টা ১ ঘন্টা ১ ঘন্টা	
	গ্রুপ - গ জৈব রসায়ন		
	১। জৈব রসায়নের সংজ্ঞা, জৈব ও অজৈব যৌগের মধ্যে পার্থক্য জৈব যৌগের গঠন, শ্রেণী বিভাগ, কার্যকরী বা ক্রিয়াশীল মূলক। ২। জৈব যৌগের নিষ্কাশন ও বিশুদ্ধকরণ ৩। সম্পৃক্ত ও অসম্পৃক্ত হাইড্রোকার্বনঃ প্রস্তুত প্রণালী, ধর্ম এবং ব্যবহার -মিথেন, ইথেন, ইথিলিন, এসিটাইলিন। ৪। এলকোহল হ্যালোজেন জাতকঃ মিথাইল ফ্লোরাইড, ক্লোরোফর্ম এর প্রস্তুতি, ধর্ম ও ব্যবহার। ৫। এলকোহলঃ শ্রেণী বিভাগ, মিথাইল এলকোহল, ইথানল এলকোহল ও গিসারিনের প্রস্তুতি, ধর্ম ও ব্যবহার। ৬। ডাই-ইথাইল ইথারঃ প্রস্তুতি, ধর্ম ও ব্যবহার। ৭। এলডিহাইড ও কিটোল সমূহঃ নিম্নলিখিত যৌগসমূহের প্রস্তুতি, ধর্ম ও ব্যবহার, ফরমালড্রিহাইড, এসিটালডিহাইড ও এসিটোন। ৮। কার্বলিক এসিডঃ এসেটিক এসিড ও সাইট্রেক এসিসেডর প্রস্তুতি, ধর্ম ও ব্যবহার। ৯। এলকোহল এ্যামাইনঃ এ্যামাইনের শ্রেণী বিভাগ, মিথাইল এ্যামাইন ও ইথাইল এ্যামাইনের প্রস্তুতি, ধর্ম ও ব্যবহার। ১০। এ্যারোমেটিক যৌগঃ নিম্নলিখিত যৌগসমূহের প্রস্তুতি, ধর্ম ও ব্যবহার। বেনজিন, টলুইন, ফ্লোরোবেজিন নাইট্রোবেজিন, অ্যানিলিন, কার্বলিক এসিড, বেনজালডিহাইড, বেনজোয়িক এসিড ও স্যালিসাইলিক এসিড।	৪ ঘন্টা ১ ঘন্টা ২ ঘন্টা ৪ ঘন্টা ২ ঘন্টা ১ ঘন্টা ৩ ঘন্টা ৩ ঘন্টা ২ ঘন্টা ৪ ঘন্টা	
	ব্যবহারিক ঃ		
	১। অম্ল ও ক্ষারের মাত্রা নির্ণয়। ২। হাইড্রোজেন ও অক্সিজেনের প্রস্তুতি। ৩। সহজ জৈব ও অজৈব যৌগের আঙ্গিক বিশেষণ।		২০ ঘন্টা
	মোট ঃ ১০০ ঘন্টা	৮০ ঘন্টা	২০ ঘন্টা

মান বন্টন ঃ লিখিত পরীক্ষা=৭৫ মার্কস, ব্যবহারিক = ১৫মার্কস, মৌখিক/ফরমেটিভ =১০ মার্কস

গ্রুপ - ক- ২০ নম্বর

গ্রুপ - খ - ২০ নম্বর

গ্রুপ - গ - ২০ নম্বর

গ্রুপ -ক থেকে ৩টি, গ্রুপ -খ থেকে ৩টি এবং গ্রুপ -গ থেকে ৩টি মোট ৯টি প্রশ্ন থাকবে। তন্মধ্যে প্রত্যোক গ্রুপ থেকে অন্ততঃপক্ষে ২ টি করে মোট ৬টি প্রশ্নের উত্তর দিতে হবে।

Paper III: Subject - Basic Microbiology & Parasitology

Total hours: 100-hour
Lecture: 80 hour
Practical: 20 hours

Total marks-200
Written-100
Oral-40
Practical- 40
Formative- 20

Learning objectives:

At the end of the course, the students will be able to –

- Define and classify microorganisms, define and explain microbiological terminologies.
- Identify, use and maintain microbiological articles, equipment, and apparatus including microscope and mention parts when applicable.
- Clean, wash, decontaminate, disinfect & sterilization microbiological articles, instruments, glass wares etc.
- Define, classify, and mention the morphology of bacteria, viruses, fungus, parasites and helminth.
- Name medically important bacteria, viruses, fungus, parasites, helminths and diseases caused by them.
- Explain the anatomy of bacteria and bacterial spores: pathogenicity of medically important bacteria, growth & multiplication of bacteria.
- Identify, staining and culture medically important bacteria.
- Mention knowledge about PPE
- Demonstrate basic knowledge of immunity.

List of Competencies:

1. demonstrate basic knowledge on common microbiological and parasitological issues.
2. perform identification of different microorganisms particularly bacteria & fungus of medical importance ensuring laboratory safety using microbiological, reagents, equipment and apparatus.
3. provide the best services to the stakeholders using knowledge and skills.

Course Contents of Basic Microbiology & Parasitology

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture / Tutorial on Theories	Practical/ Demonstration/Field visit
1.	**Introduction to microorganisms:** ▪ Definition and classification of microorganisms ▪ Microbiological terminology ▪ Characteristics of Eukaryotic prokaryotic & sub cellular groups of microorganisms ▪ Microbiological articles, equipment apparatus ▪ Microscope: Different parts of the microscope, & maintenance of the microscope	08	03
2.	**Destruction of microorganisms:** ▪ Cleaning, Washing, decontamination disinfection & procedures ▪ Sterilization of different laboratory articles, instruments, glass wares etc.	07	03

3.	**Bacteria:** ▪ Anatomy of Bacteria, the chemical composition of different structures of bacteria ▪ Bacterial Spore: Definition & function spores, Spores bearing bacteria of medical importance ▪ Bacterial toxin: Definition & types of bacterial toxin, characteristics of endotoxin & exotoxin, Toxin producing organism of medical importance, use of bacterial toxins in diseases prevention ▪ Biology of bacteria: Growth & multiplication of bacteria, bacteria growth curve, bacteria growth requirements. Definition & classification of culture media ▪ Classifying bacteria in terms of morphology, staining, spore, flagella, capsule & Pathogenicity. ▪ Staining bacteria: Gram's staining, AFB staining, Albert staining	15	04
	Virus: ▪ General characters of virus ▪ Morphology & classification of virus ▪ List of viruses of medical importance & diseases produced by them	10	01

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture / Tutorial on Theories	Practical/ Demonstration/Field visit
	Fungus: ▪ General character, Morphology and classification of fungus ▪ List of fungus list medical importance and the diseases produced by them	10	02
	Parasite: ▪ Definition /Classification of parasite	03	01
	Helminth: ▪ General characteristics of helminths ▪ Classification /Morphology of helminths	08	02
	Protozoa: ▪ General characteristics of protozoa ▪ Definition /Classification of protozoa	10	02
	PPE: ***Personal protective equipment*** (***PPE***) for different healthcare activities	04	01
	Immunity: **Basic Concept of immunity and immunization Schedule.**	05	01
	Total	**80**	**20**

Teaching Methods:

- Lecture
- Tutorial
- Practical/ Demonstration
- Field visit

Media:

- Multimedia and Laptop
- OHP and transparencies
- White Board and markers
- Blackboards and chalk
- Online and computer-based teaching-learning materials
- Laboratory: (Microscope, Autoclave, Hot Air Oven, Incubator, Haemocytometer, Haemoglobin meter, Analytical balance, Centrifuge machine, Rotator, Refrigerator, Photometer, Electrolyte analyzer, Electrophoresis apparatus, ELISA reader, PCR machine, Cell counter etc.)
- Hospital/ Health complex

Assessment:

Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral-40 marks, Formative-20 marks

Paper IV: Subject- Basic Occupational Therapy

Total hours: 250 hours
Lecture : 100 hours
Practical : 150 hours

Total marks : 200
Written : 100
Oral : 40
Practical : 40
Formative : 20

Objectives

At the end of the course, the students will be able to–

- describe history of Occupational Therapy, Occupational Therapy treatment process.
- define the term Occupational Therapy occupational roles, and characteristicsof roles.
- explain the use of a variety of treatment approaches in occupational therapy intervention.
- differentiate between different assessment methods.
- define health, disability, and rehabilitation.
- explain and describe the biomechanical and the rehabilitation frame of reference.
- explain and describe the models used in occupational therapy.
- identify different methods of documentation and the components of documentation methods.
- describe the role of self-care, productivity, and leisure in people's lives.
- explain the basic term used in kinesiology.
- describe the classification, function, movement, and range of joint.
- briefly described the biomechanics involved in movement.
- describe the muscle contraction, role of muscle and muscle strength.
- define abnormal features of gait, the phases of normal gait pattern.
- describe the motor pattern of reaching and manipulation.
- identify the essential component of standing and sitting postures in a systemic way.
- briefly describe the process of wheelchair service provision.
- demonstrate knowledge on occupational therapy treatment process.
- demonstrate knowledge on occupational therapy treatment continuum.
- demonstrate knowledge on therapeutic use of self and therapeutic use of activity.
- describe all areas of occupation, all types of contexts and environment.
- define all sensory, perceptual, neuro-musculoskeletal, motor, psychological and psychosocial components.
- demonstrate knowledge on bony palpation, soft tissue palpation and clinical significance of U/Ls & L/Ls.
- demonstrate knowledge on procedure of special test of upper limb.
- Describe body mechanics, bed mobility and transferring techniques

- Briefly describe all types of dressing techniques
- Briefly explain energy conservation, work simplification and joint protection techniques

List of competencies

Ability to-

- describe the concept of Occupational Therapy, history, philosophy, health, disability and rehabilitation.
- Use frame of references, model, approaches and techniques in practice context
- Describe the occupational therapy assessment, treatment plan and progress effectively
- demonstration adaptation procedure, types of equipment for ADL, role in providing /prescribing adaptive equipment for independent living
- Measure joint range of motion using Goniometer
- Identify the types of common joint injuries
- Measure muscle strength using Modified Oxford Muscle Grade Scale
- Identify the difference between normal and abnormal gait pattern
- Identify the difference between normal and abnormal posture
- Implement the principles of biomechanics in rehabilitation program
- Measure grip strength using Jamar Dynamometer and pinch gauge
- Perform activity analysis
- Identify functional problems based on performance components
- Complete clinical examination of upper and lower limb
- Perform patient handling
- Provide client and caregiver education
- Execute dressing practice for all kinds of patients
- Incorporate patients into therapeutic exercise
- Apply/provide/utilize physical agent modalities on patients
- Develop competency in building therapeutic relationship with client
- Measure vital signs including temperature, blood pressure, respiratory rate and pulse
- Showcase wheelchair skills in different environment
- Perform wheelchair transferring
- Provide different therapeutic exercise with adequate reasoning
- Teach bed mobility for person with hemiplegia, paraplegia and tetraplegia

Course contents of Basic Occupational Therapy

SN	Topics/Lessons	Teaching/learning Hours	
		Lecture	**Practical/ Clinical Placement**
A.	**Occupational Therapy Theory and Application** 1. Philosophy, principles, and history in occupational therapy (definition of Occupational Therapy, OT history in Bangladesh, believes and values in OT practice, client centred approach) 2. Occupational Therapy Treatment Process (Assessment, treatment planning, treatment implementation and evaluation) 3. Assessment Methods (Questioning, Observing & Testing) 4. Definition of Health, Disability and Rehabilitation 5. Healthcare team and teamwork (Multidisciplinary team, interdisciplinary team) 6. Intervention Approach 7. Frames of references ▪ Physiological ▪ Behavioural ▪ Cognitive ▪ Psychodynamic and ▪ Humanist 8. Models of practice ▪ Person, Environment Occupation Model ▪ Model of Human Occupation 9. Documentation in occupational therapy 10. Leisure	30	-
B.	**Kinesiology** 1. Introduction to basic terminology 2. Introduction to human movement (classification and function of joint, joint surface movement) 3. Common joint injuries (strain, sprain, dislocation, subluxation, bursitis, tendonitis) 4. Human biomechanics (planes & axes, degree of freedom, joint chain, close pack & loose pack, center of gravity, balance, force, equilibrium, lever) 5. Measure joint range of motions 6. Muscle (roles of muscle, muscle contraction) 7. Measure Manual Muscle Strength 8. Posture and movement (normal and abnormal) 9. Functional mobility (analysis of normal gait pattern, walking, abnormal features in gait) 10. Function of hand (grasp, grip, reaching and manipulation)	30	75

C.	**Therapeutic Skills** 1. Introduction to Therapeutic skills 2. Occupational Therapy Practice Framework 3. Areas of occupations (Activities of daily living, Instrumental activities of daily living, Rest and sleep, Education, Work, Play, Leisure and Social participation) 4. Performance components and context in occupational therapy 5. Principles and theories of analyzing activity 6. Principles and theories of grading activity 7. Principles and theories of adapting activity 8. Palpation (Bony palpation and soft tissue palpation of shoulder, elbow, wrist, hand, hip, Knee, ankle) 9. Special tests for upper limb 10. Grip strength measurement 11. Vital sign measurement 12. Bed mobility and transferring 13. Dressing techniques for person with tetraplegia, paraplegia, hemiplegia 14. Wheelchair service provision 15. Therapeutic exercises 16. Guideline of using physical agent modalities	40	75
	Total	100	150

Teaching Methods

- Lecture
- Demonstration/Practical /Small group teaching
- Course work/ Assignment
- Role play

Media:

- Laptop
- Multimedia
- Over Head Projector (OHP)
- White Board and Marker
- Black Board and Chalk
- Occupational Therapy Lab
- Clinical Ward
- Simulated environment

Assessment

Written – SAQ= 80 marks, MCQ=20 marks

Practical or OSPE 40 marks, Oral/SOE-40 marks, Formative-20 marks

Paper V: Subject- Occupational Therapy in Paediatrics

Total hours: 300 hours
Lecture : 100 hours
Practical : 200 hours

Total marks: 200
Written : 100
Oral : 40
Practical : 40
Formative : 20

Objectives

At the end of the course, the students will be able to–

- explain the basic term used in human development
- explain the stages of conception and foetal development
- explain the developmental milestone
- define and explain the primitive reflexes
- demonstrate knowledge of fine and gross motor development through the lifespan
- demonstrate knowledge of sensory development through the lifespan
- demonstrate knowledge of cognitive development through the lifespan
- demonstrate an understanding of language development through the lifespan
- demonstrate an understanding of the developmental competencies for a given age group,
- describe the necessary factors that will enhance growth and development
- describe normal and impaired development of postural control, visual perceptual skills, and oral motor skills.
- understand and demonstrate paediagtric conditions (genetic, neuro-developmental, congenital, neyromuscular, musculoskeletal disorder)
- demonstrate paediatric assessments of performance components and performance areas.
- explain Occupational Therapy treatment of performance components and performance areas.
- explain the theories of sensory integration, neurodevelopment, motor learning and play theory.

List of competencies

Ability to-

- determine an individual's developmental competencies in relation to their chronological age
- test the reflexes and find out case specific problem in children and adult
- assess the child developmental milestones using standardized assessment
- differentiate normal and impaired development of postural control, hand skills, visual perceptual skills, and feeding and oral motor skills find out problems according to the developmental stages
- apply the theories of sensory integration, conductive education, neurodevelopmental therapy,

motor learning theories and play theory design appropriate treatment plan according to the problems

- demonstrate paediatric conditions (genetic, neuro-developmental, congenital, neuromuscular, musculoskeletal disorder)
- clarify treatment outcomes and prognosis
- identify appropriate adaptations to enhance the independent living of children in home and school settings.
- work with parents of children with disability
- provide caregiver or parent education

Course Contents of Occupational Therapy in Paediatrics

Sl. No	Topics/Lessons	Teaching/learning hours	
		Lecture	**Practical/ Clinical placement**
A	**Basic Human Development** 1. Prenatal period, birth, and associated complications 2. Normal development through neonate to old age 3. Primitive reflexes, and reaction 4. Postural control 5. Gross & fine motor development 6. Hand skills development 7. Visual Perception 8. Oral Motor Control 9. Cognitive development 10. Socio-emotional development 11. Language development	25	25

B.	**OT Paediatrics** ▪ Genetic Conditions ▪ Musculoskeletal disorders ▪ Neuromuscular disorders Hydrocephalus Cerebral palsy Epilepsy Muscular Dystrophy Spina Bifida Peripheral nerve injury Erb's palsy ▪ Neuro-developmental Disorders Autism ADHD Intellectual Disability Learning Disabilities Rett's Syndrome Tourette's Syndrome ▪ Congenital disorders Club feet Flat feet Arthrogryposis Congenital hip dislocation ▪ Infectious conditions Poliomyelitis Encephalitis Meningitis ▪ Emotional & behavioural disorders ▪ Visual and hearing impairment	75	175
	▪ Standardised and non-standardised assessments in occupational therapy in paediatrics: M-CHART-R, PEDI, QUEST, WeeFIM, Sensory integration therapy assessments, IEP and any other latest evidence-based assessment tools Occupational Therapy intervention and evaluation: Development of postural control, hand skills, sensory integration therapy, visual perception, cognitive behavioural therapy, social, psychosocial and emotional skills training, feeding and oral motor control, ADL and IADL training and play therapy		
	Total=	**100**	**200**

Teaching Methods

- Lecture
- Demonstration/Practical/Small group teaching/Simulation/Bedside teaching
- Course work/Assignment

Media

- Bed and Chair
- Dummy/simulated patients
- Clinical Ward
- Laptop
- Multimedia
- Over Head Projector (OHP)
- White Board and Marker
- Black Board and Chalk
- Practical Room
- Toys / Mannequins

Assessment

Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral/SOE-40 marks, Formative-20 marks

3rd Year

Paper I: Subject- Occupational Therapy in Adaptation Design & Ergonomics

Total hours: 250 hours
Lecture : 100 hours
Practical : 150 hours

Total marks: 200
Written : 100
Oral : 40
Practical : 40
Formative : 20

Objectives

At the end of the course, the students will be able to–

- Define the terms of assistive technology & device
- Design the home & environmental modification
- State the concepts of accessibility in relation to building design, spatial layout & physical environment
- Describe appropriate structural dimensions of a wheelchair accessible building
- Demonstrate the role of an Occupational Therapist in home visits
- Identify the different pressure areas and know the pressure relieving techniques
- Identify areas to assess regarding individual's work capacity work site and job analysis.
- Describe the role of Occupational Therapist in the field of ergonomics.
- Identify the principles of work and demonstrate an understanding of the value of work to the individual and society.
- Define Anthropometry, Ergonomics, and their effect on an individual's work performance.
- Identify environmental factors and aspects of workplace design, and their impact on the individual.
- Know the risk assessment, Occupational accidents, and safety measures to reduce injury risk in the workplace.
- Design and grade activities as part of a work hardening program.

List of competencies

Able to-

- Identify appropriate ambulation aids, Wheelchair, Special Seating and Assistive Technology for the patients
- Identify appropriate and safe home for person with disability
- Design appropriate ramp, stair, toilet, kitchen for the person with disability
- Know the Occupational Therapy role in home visit

- Identify the different stages of pressure sore and the pressure relieving techniques
- Identify and differentiate hazard, risk and exposure to ensure safety in the workplace
- To know the Anthropometric measurement for maintaining proper posture in different work station
- Identify Ergonomic and environmental factors in the workplace
- Maintain the principles of occupational health and safety to control occupational diseases/injury
- Setup office considering the theories of office ergonomics

Course contents of Adaptation and Ergonomics

Sl. No	**Topics/Lessons**	**Teaching/learning Hours**	
		Lecture	**Practical/ Clinical placement**
1	**Adaptation Design** 1. Building design & accessibility 2. Home visits 3. Pressure care 4. Equipment design and fabrication in ADL & DADL 5. Ambulation aids 6. Wheelchair design & prescription & training 7. Home modifications 8. Assistive technology and environmental modification 9. Special Seating	50	75
2	**Ergonomics** 1. Introduction of Ergonomics 2. Anthropometry 3. Ergonomics and environmental factors 4. Risk assessment 5. Occupational Health and Safety 6. Job analysis 7. Workplace design and adaptation 8. Ergonomics Workplace Assessment (EWA) 9. Role of OT & the work rehabilitation process	50	75
	Total=	**100**	**150**

Teaching Methods

- Lecture
- Demonstration/Practical
- Course work/ Assignment

Media

- Bed and Chair
- Laptop
- Multimedia
- Over Head Projector (OHP)
- White Board and Marker
- Black Board and Chalk
- Practical Room
- Wheelchair
- Special Seat
- Assistive devise
- Video clip
- Tape measure

Assessment

Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral/SOE-40 marks, Formative-20 marks

Paper II : Subject- Occupational Therapy in Management

Total hours: 250 hours
Lecture : 100 hours
Practical : 150 hours

Total marks: 200
Written : 100
Oral : 40
Practical : 40
Formative : 20

Objectives

At the end of the course, the students will be able to–

- Describe the principles and application of community-based rehabilitation both in Bangladesh and other countries.
- Identify and assess needs of communities, individuals and groups
- Conduct appropriate and relevant community surveys taking into account the ethical considerations of data gathering methods
- Investigate resources available and an understanding of the need for resources to be advertised and retired between community groups and relevant organizations.
- Describe what is social anthropology
- Describe the importance and interest in the study of culture, society and change and it's impact on provision of occupational therapy services.
- Describe the variety of elements which are affected by a person's culture including marriage & family structures.
- Describe the context of elderly care in Bangladesh
- Describe the organizational structure of health care system within Bangladesh.
- State what is needs assessment and identify the needs for occupational therapy service in any organisation
- Identify the relation between occupational therapy and other health professions
- Communicate with the various health care system
- Explain the functions of a manager.
- Describe the Bangladesh Health Service Organisation.
- Identify and explain the steps involved in developing an Occupational Therapy service.
- Describe the processes involved in managing staff, and outline when each process is required.
- Use assertiveness and negotiation principles in communication.
- Describe the components of quality and financial management.

List of competencies

Able to-

- Engage in community-based rehabilitation using local resources
- Undertake rehabilitation activities considering social anthropology, culture, disability issues
- Conduct survey in the community
- Incorporate the activities of project management cycle
- Provide service in elderly care centre
- Manage occupational therapy service in any settings
- Practice appropriate leadership skills
- Demonstrate ability to work in different setting.
- Build up high level of professional communication
- Take steps for promotion of profession.

Course Contents of Occupational Therapy in Management

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Theory	**Practical/ Clinical placement**
1	**Management** 1. Bangladesh Health Service System 2. Planning an Occupational Therapy service 3. Managing staff & working with other professionals 4. Methods of communication 5. Leadership	25	-
2	**Project Management** **1.** Introduction to term used in project proposals writing (Stakeholder analysis, problem statement analysis, objective tree development, logical frame development) **2.** Phases of the projects 3. Financial aspect of the project management e.g budget management 4. Operation of a project activities	25	-
3	**Community Based Rehabilitation (CBR)** 1. WHO classification of disability-ICF 2. Anthropology 3. Elderly care 4. The role of caregivers in treatment 5. Principles of community-based rehabilitation 6. CBR Framework 7. Program planning cycle 8. Identification of needs 9. Situational Analysis 10. Community surveys 11. Availability of resources	50	150
	Total=	**100**	**150**

Teaching Methods

- Lecture
- Demonstration/Practical
- Course work/ Assignment

Media

- Bed and Chair
- Laptop
- Multimedia
- Over Head Projector (OHP)
- White Board and Marker
- Black Board and Chalk
- Practical Room
- Video clip

Assessment

Written – SAQ= 80 marks, MCQ=20 marks
Practical 40 marks, Oral/SOE-40 marks, Formative-20 marks

Paper III: Subject- Occupational Therapy in Psychiatry & Psychosocial Rehabilitation

Total hours: 250 hours
Lecture : 100 hours
Practical : 150 hours

Total marks: 200
Written : 100
Oral : 40
Practical : 40
Formative : 20

Objectives

At the end of the course, the students will be able to–

- Demonstrate an understanding of the impact of social psychology, personality, motivation, on learning and memory
- Demonstrate knowledge of cognitive development through the lifespan
- Demonstrate an understanding of factors that affect socio-emotional development and the impact on the individual's growth and development
- Demonstrate the ability to determine an individual's development competencies in relation to chronological age
- Demonstrate an understanding of the developmental competencies for a given age group, and describe the necessary factors that will enhance growth and development
- Understand the social, cognitive and physical challenges throughout the lifespan and the impact of these changes to rehabilitation
- Define mental illness and explain the parameters of mental health.
- Briefly describe the etiology, clinical features, diagnosis and prognosis of a variety of psychiatric conditions.
- Provide a detailed description of the diagnosis, prognosis, etiology, clinical feature and treatment of: Schizophrenia, Depression, Bi-polar disorder, Substance abuse disorder
- Describe a variety of treatment mediums used in psychiatry.
- Explain the use of medication in the treatment of various psychiatric disorders.
- Give examples of uses for electro-convulsive therapy and describe its basic principles and mechanisms.
- Explain the importance of ethics in mental health work.
- Describe the role of each member in a multidisciplinary team within a psychiatric setting.
- Explain the impact of cultural and social beliefs on the individual with mental illness.
- Discuss relative legislation relating to people with psychiatric disorders in Bangladesh.
- Explain the importance of the therapeutic relationship.

- Discuss the occupational therapy role in different settings.
- Describe current facilities and practices in psychiatry in Bangladesh.
- Demonstrate and justify the selection of occupational therapy assessment and treatment planning methods.
- Explain the use of a variety of occupational therapy treatment methods in psychiatry.
- Explain the importance of ethics in psychiatry.

List of competencies

Ability to-

- Demonstrate an understanding of the impact of social psychology, personality, motivation, learning and memory
- Understand the social, cognitive, and physical challenges throughout the lifespan and the impact of these changes to rehabilitation
- Apply psychological framework to the rehabilitation process
- Make a clinical assessment and diagnosis in order to treat psychosocial and psychiatric condition with minimum supervision
- Able to interpret theory into plan in terms of treatment provide and documentation with minimum supervision

Course content of Occupational Therapy in Psychiatry & Psychosocial rehabilitations

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Lecture	Practical/ Clinical placement
1	**Psychology** 1. Introduction to Psychology 2. Psychology theoretical framework 3. Social psychology 4. Personality motivation & socialisation 5. Learning, memory, and cognition	25	-
2	Psychosocial 1. Skills in the patient therapist relationship 2. Occupational therapy in psychiatry settings 3. Multidisciplinary team in Psychiatry 4. Counselling 5. Group work 6. Behaviour modification 7. Life skills 8. Relaxation and stress management	25	75

3	**OT in Psychiatry** 1. Mental health and Ethical considerations 2. Neurosis, psychosis, schizophrenia, affective disorder, adjustment disorder and substance abuse 3. Depression, Anxiety, Phobias, Suicide 4. Forensic Psychiatry 5. Occupational therapy assessments in psychiatry and psychosocial settings: COPM, Functional assessment, Role checklist and any other related and evidence-based latest assessments 6. Group work (models/clients /types of groups) 7. Treatment methods: cognitive/creative/life skills/Income generation 8. Drug use in mental health treatment and contraindication	50	75
	Total=	**100**	**150**

Teaching Methods

- Lecture
- Demonstration / Practical / Small group teaching / Bed site teaching
- Course work/ Assignment

Media

- Bed and Chair
- Dummy / simulated patients
- Clinical Ward
- Laptop
- Multimedia
- Over Head Projector (OHP)
- White Board and Marker
- Black Board and Chalk
- Practical Room
- Toys / Mannequins

Assessment

Written (SAQ)= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral/SOE-40 marks, Formative-20 marks

4th Year

Paper I: Subject- Occupational Therapy in Neurology

Total hours: 250 hours
Lecture : 100 hours
Practical : 150 hours

Total marks: 200
Written : 100
Oral : 40
Practical : 40
Formative : 20

Objectives

At the end of the course, the students will be able to–

- Describe the movement control systems, including motor and sensory control, tone and reflexes, and the difference between upper and lower motor neurone function
- Explain neurons, action potentials, excitation and inhibition, synapses and chemical transmission, neuroglia and connective tissue
- Describe the anatomy and functions of different lobes of the brain, and identify the functional problems related to specific brain damage.
- Demonstrate safe transfers of and appropriate positioning of hemiplegic patients (lying sitting, sitting standing, chair wheelchair, bathroom transfers).
- Demonstrate neurological assessments used by occupational therapists.
- Prepare documentation using the problem orientated medical records system, including the soap format (subjective, objective, analysis, plan)
- Describe the aetiology, pathophysiology, clinical features, complications, management and prognosis of the neurological conditions.

List of competencies

Ability to-

- Assess physical, psychological, cognitive, emotional, behavioural, social, and environmental aspects of the neurological conditions.
- Assess muscle tone and muscle strength of neurological conditions
- Provide rehabilitation service for people with neurological conditions
- Maintain grading and adaptation for people with neurological conditions

Course Contents of Occupational Therapy in Neurology

Sl. No	Topics/Lessons	Teaching/learning hours	
		Lecture	Practical/ Clinical placement
1	**Neuroscience** 1. Basis of excitation and inhibition 2. Synapses and chemical transmission 3. Plasticity and nerve injury response 4. Sensory systems 5. Motor systems, muscles and muscle receptors 6. Reticular formation 7. Muscle tone 8. Reflex activity 9. Formation and degeneration of nervous system 10. Theories of acute and chronic pain	30	25
2	**OT in Neurological conditions** 1. Cerebrovascular accident 2. Spinal cord injury 3. Head injury 4. Parkinsons disease 5. Cerebellar dysfunction 6. Motor neuron disease 7. Peripheral neuropathy 8. Assessment 9. Treatment approaches (NDT, Roods, PNF, Movement therapy) 10. Documentation	70	125
	Total =	**100**	**150**

Teaching Methods:

- Lecture
- Demonstration / Practical / Small group teaching/ Bedside teaching
- Course work/ Assignment

Media:

- Bed and Chair
- Dummy
- Clinical Ward
- Laptop
- Multimedia
- Over Head Projector (OHP)
- White Board and Marker
- Black Board and Chalk
- Practical Room

Assessment:

Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral/SOE-40 marks, Formative-20 marks

Paper II: Subject- Occupational Therapy in Orthopaedics

Total hours: 250 hours
Lecture : 100 hours
Practical : 150 hours

Total marks: 200
Written : 100
Oral : 40
Practical : 40
Formative : 20

Objectives

At the end of the course, the students will be able t:–

- Demonstrate knowledge on the following areas- causes and definition of various disease, sign and symptom, extent of damage.
- Demonstrate knowledge on causes, sign & symptoms & factors influencing inflammation.
- Describe –pathology, healing process, potential complications, functional deficits, basic medical management, specific occupational therapy treatment.
- Demonstrate ability to conduct upper limb assessments using various standardized & non-standardize tools with minimum supervision.
- Mention variety of treatment approach and their implementation.
- Describe /demonstrate- disease conditions, use of variety of assessment tools, functional impact, occupational therapy assessment & intervention with minimum supervision.
- Familiar with the practice of Hand Therapy
- Gain in-depth knowledge of soft tissues injury and healing,
- Conduct various assessment of investigate the problem of hand with minimum supervision
- Demonstrate knowledge about various Occupational overuse injuries in upper limb
- Assess physical, psychological, cognitive, emotional, behavioural, social, and environmental aspects of the different conditions.
- Provide rehabilitation service for people with orthopaedic conditions with minimum supervision.
- Maintain grading and adaptation for people with orthopaedic conditions
- Demonstrate the clinical reasoning, case studies and practical sessions with supervision.
- Able to interpret theoretical learning into practice with minimum supervision.

List of competencies

Ability to-

- Assess physical, psychological, cognitive, emotional, behavioral, social, and environmental aspects of the orthopaedic conditions with minimum supervision of a qualified occupational Therapist.

- Provide rehabilitation service for people with orthopaedic conditions with minimum guidance.
- Maintain grading and adaptation for people with orthopedic conditions
- Demonstrate the clinical reasoning, case studies and practical sessions
- Capable into treatment of common hand injuries and splinting with little supervision.
- Assist interpret the theoretical knowledge into practice
- Understand about the definition, etiology and features of different orthopedic conditions.
- Describe therapeutic exercise and activities and differentiate which should be used for client with hip fracture, club feet, arthritis, Cancer, Cardio-vascular condition and Burn.
- Differentiate and management of spinal deformities.
- Differentiate the Prothesis and Orthosis
- Gain knowledge about the grading and adaptation of the activities and environment in different conditions

Course contents of Occupational Therapy in Orthopaedics

Sl. No	Topics/Lessons	Teaching/learning Hours	
		Theory	Practical/ Clinical placement
A.	**Rehabilitation of Hand and Upper Limb** 1. Functional anatomy of the upper limb 2. Tools and Assessment method of upper limb 3. Basic of Hand Therapy 4. Review of Wound and Tissue Healing 5. Occupational Overuse Injuries in upper limb 6. Fractures 7. Nerve injuries 8. Tendon injuries 9. Soft tissue injuries 10. Tenosynovities 11. Epicondylosis 12. Carpal tunnel syndrome 13. Dupytrens contracture 14. Splinting 15. Assessments in occupational therapy in hand and upper limb 16. Treatment	50	75

B.	**Occupational Therapy in Physical Dysfunction** 1. Orthopedic conditions (Hip fracture, Club Feet) 2. Osteoarthritis 3. Rheumatoid arthritis 4. Cancer 5. Cardio-vascular condition 6. Deformities of spine 7. Back pain 8. Burn 9. Amputation 10. Prothesis and Orthosis 11. Assessments in occupational therapy in physical dysfunctions 12. Treatments	50	75
	Total =	**100**	**150**

Teaching Methods:

- Lecture
- Demonstration/Practical
- Course work/ Assignment

Media:

- Bed and Chair
- Dummy
- Clinical Ward
- Laptop
- Multimedia
- Over Head Projector (OHP)
- White Board and Marker
- Black Board and Chalk
- Practical Room
- Therapeutic modalities
- Splint model
- Video clip

Assessment:

Written – SAQ= 80 marks, MCQ=20 marks
Practical or OSPE 40 marks, Oral/SOE-40 marks, Formative-20 marks

Special Lab Attachment

Occupational Therapy Clinical Placement areas:

1. Neurology
2. Spinal Cord Injury
3. Pediatrics
4. Special School
5. Orthopedics
6. Splinting and Orthotics
7. Mental Health & Psychosocial
8. Community Based Rehabilitation (CBR)

CLINICAL PLACEMENTS

Year	Clinical	Duration
1st Year	--	---
2nd Year	Observation	50 hours (2 weeks)
3rd year	Basement Placement	300 hours(12 weeks)
4th year	Specialised areas	640 hours (16 weeks)

Objectives: At the end of the clinical placements, students able to-

- Assess physical and psychosocial factors of client need
- synthesize knowledge and assessment findings in order to identify therapeutic objectives
- Plan realistic therapeutic programme for individual clients which permits achievement of therapeutic objectives
- Implement a therapeutic programme safely, effectively, efficiently and with sensitivity, with an emphatic and caring approach to patients and their carers
- Utilize information from patients medical records and, where available, verbal correspondence, to complete the assessment
- Evaluate the effectiveness of interventions and to vary treatment programmes accordingly
- Communicate in a professional manner with clients, carers and colleagues, and the capacity to contribute to multidisciplinary discussions
- Respect values consistent with high standards of ethical and professional conduct
- Good written communication skills and an ability to keep accurate client records with awareness of legal and ethical problems
- Differentiate between subjective and objective findings from the assessment and appreciate the importance of objective data for research applications
- Prioritize problems and differentiate between those that may be helped by occupational therapy, and those that require referral to other services
- Maintain a clear and accurate record of patient assessment, treatment and progress, and be aware of the need for confidentiality
- Execute occupational therapy techniques safely, accurately and effectively, selecting correct frequency and duration of procedures chosen
- Give a reasoned account of the criteria for selection or non-selection of relevant occupational therapy techniques
- Teach appropriate home care and/or preventative techniques to patients and/or their carers
- Explain the importance of continual updating of knowledge and awareness of research findings in physiotherapy to practice.

Outline of Institutional Academic Laboratory

The institute should be equipped with the standard instruments that are necessary to develop the skills required for the students to understand equipment and instruments name, name of parts, operational use and maintenance. They should execute basic provocative therapeutic test, therapeutic activities and exercises, and make assistive device essential in Occupational Therapy practice and able to use the appropriate equipment in clinical practice.

The following equipment and instruments will be there:

Sl. No	Name of Equipment and Instruments
1.	Practical Room
2.	Treatment Bed- High low adjustable
3.	Treatment Table- High low adjustable
4.	Treatment Chair – High low adjustable
5.	Pillow, Towel, Bed sheet
6.	Cushions, Rolls and Wedges
7.	Anatomical Posters
8.	Anatomical Models (full body)
9.	Cadavers and Dissection Body Part
10.	Dummy Model
11.	IEC Materials (health education posters)
12.	Goniometers
13.	Grip Dynamometer
14.	Pinch Dynamometer
15.	Tape Measures
16.	Volumeter
17.	Sensory Kits (for both assessment and intervention)
18.	Multisensory Devices
19.	Visual Stimulation Kits
20.	Hand Function Test Kits
21.	Cognitive Function Test and Treatment Kits
22.	Wheel Chair (low, high, supportive seating- manual and power)
23.	Tricycle
24.	Three wheeler
25.	Standing Frame (adult and paediatric)
26.	Walking Frame (adult and paediatric)
27.	Crutches
28.	Walking Stick (one point, two point, three point, four point)
29.	Orthotics / Splinting Materials
30.	3D Printer Setup
31.	Wii Game Setup
32.	Computer
33.	Assistive Device Material
34.	ADL Assessment and Practice Dummy (grooming, dressing, cooking, bathing, squatting box etc.)
35.	Hot pack and Ice pack
36.	Paraffin Wax
37.	Functional Electrical Stimulation (FES)
38.	Transcutaneous Electrical Nerve Stimulation (TENS)
39.	Ultrasound Therapy

40.	Tapping Kits
41.	Contrast Bath –bowl set
42.	Adjustable Height Pulleys
43.	Dumbbells: complete set of paired weights.
44.	Static Cycle
45.	Graded Fine Motor and Gross Motor Activities
46.	Graded Fine Motor and Gross Motor Strengthening Activities
47.	Manipulation Activities
48.	Theraband and Theraputty
49.	Vestibular ball
50.	Trampoline
51.	ADL Accessories (hand reacher, shoe horn, button opener etc.)
52.	Home Accessibility Device and Adaptive Aids (portable ramps, toilet chair etc.)
53.	Swings
54.	Learning Materials for paediatric setting
55.	Materials for obstacle courses
56.	Sensory Tunnel
57.	Craft and Arts Supplies
58.	Blood Pressure Measure
59.	Thermometer
60.	Mirror

Outline of Special Laboratory Attachment

Practical field placements are a great opportunity for the students to begin to gain hands-on experience and build a network of industry contacts. This will ensure that students can secure employment and perform their job responsibilities after successful completion of the course.
Students will work with special equipment's and alongside experienced Occupational Therapy personnel and this will exceptionally be learning and networking opportunities.
Institutional academic laboratory equipment and instruments with the special following equipment and instruments will be there:

Sl. No	Name of Equipment and Instruments
1.	**Neurology Unit Setup** • Assessment Desk • Treatment Bed- High low adjustable • Treatment Table- High low adjustable • Treatment Chair – High low adjustable • Pillow, Towel, Bed sheet • Anatomical Posters • IEC Materials (health education posters) • Sensory Kits (for both assessment and intervention) • Hand Function Test Kits • Grip Dynamometer • Pinch Dynamometer • Tape Measures • Cognitive Function Test and Treatment Kits • ADL Assessment and Practice Dummy (grooming, dressing, cooking, bathing, squatting box etc.) • Wheel Chair (low, high, supportive seating- manual and power) • Standing Frame • Walking Frame • Crutches • Walking Stick (one point, two point, three point, four point) • Wii Game Setup • Computer • Hot Pack and Ice Pack • Refrigerator • Electric Hot Water Kettle • Paraffin Wax • Functional Electrical Stimulation (FES) • Transcutaneous Electrical Nerve Stimulation (TENS) • Tapping Kits • Dumbbells: complete set of paired weights. • Weight Cuff: complete set of paired weights. • Static Cycle • Graded Fine Motor and Gross Motor Activities • Graded Fine Motor and Gross Motor Strengthening Activities • Manipulation Activities • Selective Hand Function Activities

	• Shoulder Ladder • Sanding Board • Theraband and Theraputty • Vestibular Ball • ADL Accessories (hand reacher, shoehorn, button opener etc.) • Home Accessibility Device and Adaptive Aids (portable ramps, stair, toilet chair etc.) • Swings • Learning Materials • Craft and Arts Supplies • Blood Pressure Measure • Thermometer • Weight Measure Machine • Model Apartment (bedroom, living room toilet, kitchen, dining), Workplace (office set up) and School Corner (inclusive school) • Accessible Garden • Cushions, Rolls and Wedges • Transfer Equipment • Leisure equipment • Vocational Training Corner (shop management, sewing etc.) • Vehicle Transferring Corner (Rickshaw, Car etc.) • Group Therapy Corner
2.	**Pediatric Unit Setup** ▪ Assessment Desk ▪ Paediatric Table and Chair ▪ Floor Mat ▪ Pillow and Towel ▪ Selective Toys and Sports Equipment ▪ Anatomical Posters ▪ Dummy Model ▪ IEC Materials (health education posters) ▪ Sensory Kits (for both assessment and intervention) ▪ Multisensory Devices ▪ Visual Stimulation Kits ▪ Hand Function Test Kits ▪ Cognitive Function Test and Treatment Kits ▪ Alternative Communication Devices ▪ Wheelchair (low, high, supportive seating- manual and power) ▪ Standing Frame ▪ Paediatric Walkers and Rollators ▪ Wii Game Setup ▪ Computer ▪ Assistive Device Material ▪ ADL Assessment and Practice Dummy (grooming, dressing, bathing, squatting box etc.) ▪ Graded Fine Motor and Gross Motor Activities for children ▪ Graded Fine Motor and Gross Motor Strengthening Activities for children ▪ Manipulation Activities ▪ Vestibular ball ▪ Trampolines

	▪ Obstacle Courses ▪ Weighted Items ▪ Climbing Structures ▪ Home Accessibility Device and Adaptive Aids (portable ramps, toilet chair etc.) ▪ Swings ▪ Learning Material for Children ▪ Sensory Tunnel ▪ Tilting Board ▪ Craft and Arts Supplies ▪ Mirror ▪ Sensory Friendly Corner ▪ Handwriting Accommodations ▪ Fidget and Stim Toys (Theraputty) ▪ Timer ▪ Oral Sensory Tools ▪ Sensory Motor and Perceptual Activities ▪ Tactile Stimulation Devices ▪ Sensory Garden
3.	**Orthopedic Unit Setup** ▪ Assessment Desk ▪ Treatment Table- High low adjustable ▪ Treatment Chair – High low adjustable ▪ Towel, Cushions, Rolls and Wedges ▪ Anatomical Posters ▪ IEC Materials (health education posters) ▪ Sensory Kits (for both assessment and intervention) ▪ Hand Function Test Kits ▪ Grip Dynamometer ▪ Pinch Dynamometer ▪ Tape Measures ▪ Volumeter ▪ ADL Assessment and Practice Dummy (grooming, dressing, cooking, bathing, squatting box etc.) ▪ Wii Game Setup ▪ Computer ▪ Hot pack and Ice pack ▪ Refrigerator ▪ Electric Hot Water Kettle ▪ Paraffin Wax ▪ Functional Electrical Stimulation (FES) ▪ Transcutaneous Electrical Nerve Stimulation (TENS) ▪ Ultrasound ▪ Vibrator ▪ Tapping Kits ▪ Dumbbells: complete set of paired weights. ▪ Static Cycle ▪ Graded Fine Motor and Gross Motor Activities ▪ Graded Fine Motor and Gross Motor Strengthening Activities ▪ Manipulation Activities

	▪ Selective Hand Function Activities ▪ Theraband and Theraputty ▪ ADL Accessories (hand reacher, shoe horn, button opener etc.) ▪ Craft and Arts Supplies ▪ Blood Pressure Measure ▪ Thermometer ▪ Handwriting Accommodations
4.	**Mental Health Unit Setup** ▪ Sensory Modulation equipments ▪ Self-Care Equipments ▪ Hand Craft Accessories ▪ Painting Accessories ▪ Gardening Accessories ▪ Cultural Celebration Accessories ▪ Equipment for art and dawning ▪ Musical Instrument ▪ Life skills training materials ▪ Different cognitive intervention equipment ▪ Sports materials/equipment ▪ Relaxation Matrix ▪ Vocational Training Corner
5.	**Inclusive School Unit Setup** ▪ Accessible Classroom (door width, board height, lighting etc.) ▪ Accessible Environment (playground, ramps, stair etc.) ▪ Accessible Toilet ▪ Accessible Teaching Material ▪ IEP ▪ Handwriting Accommodations ▪ Peer Support Corner ▪ Therapeutic Equipment for Special Need Children ▪ Accessible Garden ▪ Computer ▪ Craft and Arts Supplies ▪ ADL Training Corner ▪ Functional Mobility Aids ▪ Vocational Training Corner
6.	**Geriatrics Corner** ▪ Assessment Desk ▪ Model Apartment (bedroom, living room toilet, kitchen, dining), Workplace (office set up) and School Corner (inclusive school) ▪ Accessible Garden ▪ Adaptive Equipment for elderly ▪ Leisure Equipment ▪ Cognitive Assessment and Retrains Kits ▪ Group Therapy Corner ▪ Peer Support Corner ▪ Functional Mobility Devices ▪ Exercise Equipment for Mental and Physical wellbeing ▪ Easy Activities Tools

7.	**Home and Office Ergonomics Setup** ▪ Assessment Desk ▪ Computer ▪ Measurement Tape ▪ Model Apartment (bedroom, living room toilet, kitchen, dining) ▪ Workplace (office set up) ▪ School Corner (inclusive school) ▪ Accessible Garden ▪ Assistive or Modified Device
8.	**Splinting and Assistive Device Section** ▪ Adjustable Measurement Table ▪ Splinting Material (Thermoplastic, Plastic wood etc.) ▪ Heat gun ▪ Scissors ▪ Wire Bender ▪ Anti-Cutter ▪ Splint Water Bath ▪ Splint Marker ▪ Strapping and Padding (EVA and Sticky Velcro) ▪ Rebate ▪ Aluminum Bar ▪ Bob machine ▪ Electrical kettle ▪ Computer ▪ 3D Printer ▪ 3D Printing Material ▪ Tape Measure ▪ IEC Materials (health education posters)

Job description of Medical Technologists (Occupational Therapist)

A. Job Title: Diploma Occupational Therapist (DOT)

B. General Job Description:

1. Medical Technologists in Occupational Therapy (OT) have to work under Occupational Therapy department or physical medicine department assigned by the controlling authority.
2. Maintenance of therapeutic activities, equipments and accessories for the treatment:
   a) Assessment tools b) Sensory kits c) Purposeful activities d) Wax bath e) Hand therapy equipments f) Cognitive retraining activities and so on.
   1. Commitment to the patients:
      a) Should be well behaved to the patients and attendants.
      b) Explain procedures and consequences to the patients and their attendants.
      c) Motivation and counselling where and when needed.
      d) Consent of the patient where needed.
      e) Maintain confidentiality strictly and follow professional ethics.
      f) Handle the critically ill patient with due care and sympathy.
      g) Should have enough knowledge to provide treatment (OT) clients like as Spinal Cord Injury (Tetraplegia / Paraplegia), Stroke, Neuropathy, Cerebral Palsy, Autism, Affective Disorder etc.

   2. Reception and Advice to patient:
      a) Patient's initial interview should be detail as a part of baseline assessment (Medical history, present condition, patient's perspective etc.)
      b) Refer patients for appropriate Occupational Therapist (Paediatric OT, Neuro OT, Hand Therapist, Psychiatric OT, etc.)
      c) Prepare patient according to their physical and mental condition.
   3. Maintain records/ documentation:
      a) Departmental records.
      b) Patients record with name, age, sex, Occupation and H/O previous operation
      c) Treatment plan
      d) Progress notes
      e) Discharge summary
   4. Prepare indent books and proper maintenance of indent record with the expenditure records of therapeutic equipment
   5. Help and face general audit
   6. Assure proper safety measures for use of any instruments for OT, patients and attendants.
   7. Supervision and training of junior colleagues as per departmental rules.
   8. Sent periodic reports to the higher authorities as per organisational rules.

A. Specific Job Description:

1. Clinical

- The qualified diploma Occupational Therapists will work along with multidisciplinary team (doctors, physiotherapist, nurse, social worker etc).
- Diploma occupational therapists should be able to do full assessment and treatment plan but is suggested to do the assessment and treatment plan under the supervision of BSc. occupational therapist.
- Diploma occupational therapists can run the treatment session independently
- Diploma therapists may wish to discuss with the BSc qualified therapist regarding patient treatment

2. Managerial skill

- Diploma occupational therapists should not be involved in managerial job
- Maintain medical documentation concerning treatment.
- Manage caseload

3. Professional Development

- Diploma Therapists should ensure the quality of treatment and shows responsibility towards patients
- Therapists should respect patient's interest and maintain patient's confidentiality
- Keep professional relationship with patient
- Show an awareness of safety for self and others.
- Demonstrate questioning creativity, critical thinking and self-reliance and become constructive contributors within multi-disciplinary teams.
- Demonstrate a sense of responsibility to the provision and promotion of occupational therapy services in Bangladesh

4. Assessment:

Therapist should be able to assess patients / clients independently. Assessment should cover all the performance component (motor, sensory, cognitive, interpersonal, intrapersonal) performance context (environment), and performance areas (self care productivity and leisure).

5. Treatment planning:

Therapist should be able to implement the plan using different modalities, activities, equipment and environmental and physical adaptation.

9. Treatment Implementation:

Therapist should be able to implement the plan using different modalities, activities, equipments and environmental and physical adaptation.

10. Evaluation:

Therapist should be able to evaluate the treatment, progress and prognosis of the client.

11. Activity Analysis:

Should be able to analyse all the daily living and purposeful activities.

12. Techniques:

During treatment therapist should be able to apply the following techniques according to their client group:

- Rood Techniques
- Sensory Integrative Technique
- Brunstrom techniques
- Neurodevelopmental Therapy (NDT).
- Energy conservation techniques
- Rehabilitative approach etc.

A. At the teaching institutes:

At the teaching institute (upto diploma level) the diploma OT will be able to provide service as-

a) Teacher:
b) Demonstrator /Instructor

A) Teacher:

Usually the BSc/MSc therapists' take/conduct classes, but diploma occupational therapist will have opportunities to take/conduct classes after certain clinical experiences (3 to 5 years)

B) Demonstrator/Instructor:

- They will perform tutorial and demonstration classes relevant to practical items.
- Ensure and guide the students to prepare practical note books.
- Demonstrate elaborately procedures and methods of the practical works in the demonstration room and follow students' performance in the practical classes.
- Supervise practical classes as a 'Team leader'.
- Responsible for demonstration room setup and maintenance of registers, records and all instruments and activities under guidance of supervisors
- Responsible for the safety and security of the demonstration room.

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Note: The lists of books are subject to change as the subject teacher may add new content/s depending on ongoing need and practice priority.