FACULTY OF LIFE SCIENCES

Syllabus for

Bachelor of Science (Honours) (Medical Laboratory Technology)

(SEMESTER: I-II)

(Under Credit Based Continuous Evaluation Grading System)

Session: 2024-25

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

The Heritage Institution

KANYA MAHAVIDYALAYA, JALANDHAR (AUTONOMOUS)

Programme Outcomes

Upon successful completion of this course, students will be able to:

1. Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
2. Employ critical thinking and innovation to analyze challenges, concepts, research, and clinical outcomes and apply them to professional practice.
3. Demonstrate a broad-based and integrative understanding of physiological, pathological & diagnostic concepts that prepare them for careers in health science.
4. Imbibe ethical, moral and social values to become cultured and civilized health care professional.
5. Develop practical skills including techniques such as conducting experiments, using laboratory equipments, data collection and analysis.
6. Analyze critically the given scientific data, ascribe meaning to them and draw objective conclusions.

Programme Specific Outcomes

Upon successful completion of this course, students will be able to:

1. To acquire advanced knowledge and skills in various laboratory techniques and to develop the ability to critically analyze as well as interpret laboratory data.
2. Demonstrate knowledge to acquire, articulate, retain and employ practical skills relevant to fundamentals of computer, molecular techniques and statistical tools.
3. Understand the chemistry and structure of the significant biomolecules, including nucleic acids to know their properties in various biological samples.
4. Understand the basic anatomy and physiology of various organ systems of Human body including diagnosis and management of various diseases.
5. Understand the various laboratory procedures and techniques used in pathology, such as hematology, clinical biochemistry, parasitology, molecular biology and microbiology.
6. To acquire the knowledge about hematological investigations and infectious disease screening as well as to perform pre-transfusion testing procedures, including blood typing, cross-matching.
7. Students will develop leadership skills, including the ability to lead teams, mentor others, and contribute to the advancement of medical laboratory technology.
8. Students will learn about the ethical and legal issues related to medical laboratory technology, including patient confidentiality, informed consent, and medical malpractices.

KANYA MAHAVIDYALAYA, JALANDHAR (AUTONOMOUS)
SCHEME AND CURRICULUM OF EXAMINATIONS OF FOUR-YEAR DEGREE PROGRAMME
Session-2024-25

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester -I											
Course Code	**Course Title**	**Course Type**	**Total Credits (L-T-P)**	**Credit Hours**			**Total Marks**	**Marks**			**Exam Time in Hrs**
				L	**T**	**P**		**L**	**P**	**CA**	
BMLL-1421 BMLL-1031 BMLL-1431	Punjabi (Compulsory) [1]Basic Punjabi [2]Punjab History and Culture	C	4-0-0	4	-	-	100	70	-	30	3
BMLM-1102	Communication Skills in English-I	AEC	3-0-1	3	-	2	100	50	20	30	3
BMLL-1483	Basics of Human Physiology-I	DSC	3-0-0	3	-	-	100	70	-	30	3
BMLP-1483	Basics of Human Physiology-I Lab	DSC	0-0-2	-	-	4	50	-	35	15	3
BMLL-1484	Basics of Human Anatomy -I	DSC	3-0-0	3	-	-	100	70	-	30	3
BMLP-1484	Basics of Human Anatomy -I Lab	DSC	0-0-2	-	-	4	50	-	35	15	3
BMLL-1485	Principles of Biochemistry	DSC	3-0-0	3	-	-	100	70	-	30	3
BMLP-1485	Principles of Biochemistry Lab	DSC	0-0-2	-	-	4	50	-	35	15	3
VACF-1491	*Foundation Course	VAC	2-0-0	2	-	-	50	35	-	15	1
Total Credits			25	Total marks			700				

1 Special paper in lieu of Punjabi (Compulsory).
2 Special paper in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.
***Credits of these papers will not be added in SGPA/CGPA and only grades will be provided.**
C- Compulsory
VAC- Value Added Course
DSC- Discipline Specific Course
AEC- Ability Enhancement Course

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester -II											
Course Code	**Course Title**	**Course Type**	**Total Credits (L-T-P)**	**Credit Hours**			**Total Marks**	**Marks**			**Exam Time in Hrs**
				L	**T**	**P**		**L**	**P**	**CA**	
BMLL-2421 BMLL-2031 BMLL-2431	Punjabi (Compulsory) [1]Basic Punjabi [2]Punjab History and Culture	C	4-0-0	4	-	-	100	70	-	30	3
BMLM-2102	Communication Skills in English-II	AEC	3-0-1	3	-	2	100	50	20	30	3
BMLL-2483	Hematology-I	DSC	3-0-0	3	-	-	100	70	-	30	3
BMLP-2483	Hematology-I Lab	DSC	0-0-2	-	-	4	50	-	35	15	3
BMLL-2484	Basics in Human Physiology-II	DSC	3-0-0	3	-	-	100	70	-	30	3
BMLP-2484	Basics of Human Physiology-II Lab	DSC	0-0-2	-	-	4	50	-	35	15	3
BMLL-2485	Basics of Human Anatomy-II	DSC	3-0-0	3	-	-	100	70	-	30	3
BMLP-2485	Basics of Human Anatomy-II Lab	DSC	0-0-2	-	-	4	50	-	35	15	3
BMLM-2130	Fundamentals of Data Analytics	SEC	2-0-1	2	0	2	100	40	30	30	3+3
VACD-2161	*Drug Abuse: Problem, Management and Prevention (Compulsory)	VAC	2-0-0	2	-	-	50	35	-	15	3
Total Credits			28	Total marks			800				

1 Special paper in lieu of Punjabi (Compulsory).
2 Special paper in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.
***Credits of these papers will not be added in SGPA/CGPA and only grades will be provided.**
C-Compulsory
VAC- Value Added Course
DSC- Discipline Specific Course
AEC- Ability Enhancement Course
SEC- Skill Enhancement Course

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Punjabi (Compulsory)
Course Code: BMLL-1421

COURSE OUTCOMES

CO1: ਸਰਵੋਤਮ ਪੰਜਾਬੀ ਕਵਿਤਾ ਤੇ ਕਹਾਣੀ ਪੁਸਤਕ ਦੇ ਕਵਿਤਾ ਭਾਗ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਵਿਤਾ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਤਾਂ ਕਿ ਉਹ ਆਧੁਨਿਕ ਦੌਰ ਵਿਚ ਚੱਲ ਰਹੀਆਂ ਕਾਵਿ ਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕਣ।ਇਸ ਦਾ ਹੋਰ ਮਨੋਰਥ ਕਵਿਤਾ ਦੀ ਵਿਆਖਿਆ, ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲੰਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਤੋਂ ਜਾਣੂ ਕਰਾਉਣਾ ਵੀ ਹੈ ਤਾਂ ਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ ਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕ ਦ੍ਰਿਸ਼ਟੀ ਬਣਾ ਸਕਣ।

CO2: ਮੰਚ ਘਰ ਪੁਸਤਕ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨ ਗਿਆਨ ਦੇਣਾ ਹੈ।

CO3: ਪੈਰ੍ਹਾ ਰਚਨਾ ਅਤੇ ਪੈਰ੍ਹਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO4: ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ:ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਵਿਚਲਾ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ ਚਿੰਨ੍ਹ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ ਪੜ੍ਹਣ ਨਾਲ ਵਿਦਿਆਰਥੀ ਧੁਨੀਆਂ ਦੀ ਉਚਾਰਨ ਪ੍ਰਣਾਲੀ ਤੋਂ ਵਾਕਫ਼ ਹੋਣਗੇ।

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I

(Session 2024-25)

Course Title: Punjabi (Compulsory)

Course Code: BMLL-1421

ਸਮਾਂ: ਤਿੰਨ ਘੰਟੇ	**Maximum Marks: 100**
L-T-P	**Theory : 70**
4-0-0	**CA : 30**

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹੋਣਗੇ।ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।

3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।

4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਸਰਵੋਤਮ ਪੰਜਾਬੀ ਕਵਿਤਾ ਤੇ ਕਹਾਣੀ (ਸੰਪਾ. ਡਾ. ਰਮਿੰਦਰ ਕੌਰ, ਡਾ. ਮੇਘਾ ਸਲਵਾਨ) ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ। (ਕਵਿਤਾ ਭਾਗ)

(ਕਵਿਤਾ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ/ਵਿਸ਼ਾਵਸਤੂ/ਸਾਰ)

14 ਅੰਕ

ਯੂਨਿਟ-II

ਮੰਚ ਘਰ

ਡਾ. ਕੁਲਦੀਪ ਸਿੰਘ ਧੀਰ, ਡਾ. ਹਿਰਦੇਜੀਤ ਸਿੰਘ ਭੋਗਲ (ਸੰਪਾ.), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ,ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ ਵਸਤੂ,ਸਾਰ, ਪਾਤਰ ਚਿਤਰਨ) 14 ਅੰਕ

ਯੂਨਿਟ-III

(ੳ) ਪੈਰ੍ਹਾ ਰਚਨਾ

(ਅ) ਪੈਰ੍ਹਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ। 14 ਅੰਕ

ਯੂਨਿਟ-IV

ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ:

ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਵਿਚਲਾ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ ਚਿੰਨ੍ਹ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ

14 ਅੰਕ

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: BASIC PUNJABI In lieu of Punjabi (Compulsory)
COURSE CODE - BMLL-1031

Course outcomes

CO1:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਵਿਚ ਪਾ ਕੇ ਇਕ ਹੋਰ ਭਾਸ਼ਾ ਸਿੱਖਣ ਦਾ ਮੌਕਾ ਪ੍ਰਦਾਨ ਕਰਨਾ ਹੈ। ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੈਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤਰਾਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਲਗਾਖ਼ਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) ਦੀ ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO2: ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ ਦੀ ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ (ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ,ਮੂਲ ਸ਼ਬਦ,ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ) ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO3: ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਸ਼ਤੇਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰ ਧੰਦਿਆਂ ਆਦਿ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO4: ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਵਿਚ ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤੱਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ ਸਿਖਾਉਣਾ ਹੈ।

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: BASIC PUNJABI In lieu of Punjabi (Compulsory)
COURSE CODE -BMLL-1031

ਸਮਾਂ : 3 ਘੰਟੇ **Maximum Marks: 100**

L-T-P : 4-0-0 **Theory : 70**
CA : 30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।

3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।

4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੈਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤ੍ਰਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਲਗਾਖ਼ਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ।

14 ਅੰਕ

ਯੂਨਿਟ-II

ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ : ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ (ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ, ਮੂਲ ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ) 14 ਅੰਕ

ਯੂਨਿਟ-III

ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਸ਼ਤੇ ਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰ ਧੰਦਿਆਂ ਆਦਿ ਨਾਲ ਸੰਬੰਧਤ। 14 ਅੰਕ

ਯੂਨਿਟ-IV

ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ ।

14 ਅੰਕ

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Punjab History and Culture (From Earliest Times to C 320)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)
Course Code: BMLL-1431

COURSE OUTCOMES

After completing Semester I and course on Punjab History and Culture students of History will be able to identify and have a complete grasp on the sources and writings of Ancient Indian History of Punjab

CO 1: Identify and understand the sources and physical features of Punjab

CO 2: To study the earliest civilization (Indus Valley Civilization) and original home of Aryans

CO 3: To examine the Social, Religious and Economic life during Early and Later Vedic Age

CO 4: To comprehend the Buddhist, Jain and Hindu faith and their relevance in the modern time

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Punjab History and Culture (From Earliest Times to C 320)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)
Course Code: BMLL-1431

Examination Time: 3 Hours
Credits L-T-P: 4-0-0

Max. Marks: 100
Theory: 70
CA: 30

Instructions for the Paper Setter:

1. Question paper shall consist of four Units
2. Examiner shall set 8 questions in all by selecting Two Questions of equal marks from each Unit.
3. Candidates shall attempt 5 questions in 800 words, by at least selecting One Question from each Unit and the 5th question may be attempted from any of the four Units.
4. Each question will carry 14 marks

Unit-I

1. Physical features of the Punjab
2. Sources of the ancient history of Punjab

Unit-II

3. Harappan Civilization: social, economic and religious life of the Indus Valley People.
4. The Indo-Aryans: Original home

Unit-III

5. Social, Religious and Economic life during Early Vedic Age.
6. Social, Religious and Economic life during Later Vedic Age.

UNIT-IV

7. Teachings of Buddhism
8. Teachings of Jainism

Suggested Readings

- B.N. Sharma, Life in Northern India, Delhi. 1966.
- Budha Parkash, Glimpses of Ancient Punjab, Patiala, 1983.
- Chopra, P.N., Puri, B.N., and Das,M.N.(1974). A Social, Cultural and Economic History of India, Vol. I, New Delhi: Macmillan India.
- L. M Joshi (ed.), History and Culture of the Punjab, Art-I, Patiala, 1989 (3rd edition)
- L.M. Joshi and Fauja Singh (ed.), History of Punjab, Vol.I, Patiala 1977.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Communication Skills in English - I
Course Code: BMLM -1102
(THEORY)

Course Outcomes

At the end of this course, the students will develop the following Skills:

CO1: Reading skills that will facilitate them to become an efficient reader

CO2: Through reading skills, the students will have an ability to have a comprehensive understanding of the ideas in the text and enhance their critical thinking

CO3: Writing skills of students which will make them proficient enough to express ideas in clear and grammatically correct English

CO4:The skill to use an appropriate style and format in writing letters (formal and informal) and resume, memo, notices, agenda, minutes

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Communication Skills in English-I
Course Code: BMLM -1102
(THEORY)

Total Marks: 100
Examination Time: 3 Hrs **Theory: 50**
Practical: 20
CA: 30

Instructions for the paper setter and distribution of marks:

The question paper will consist of four sections. The candidate will have to attempt five questions in all selecting one from each section and the fifth question from any of the four sections. Each question will carry 10 marks. Each question can be sub divided into two parts.

(10x5=50)

Section-A: Two questions of theoretical nature will be set from Unit I.

Section-B: Two comprehension passages will be given to the students from Unit II.

Section-C: Two questions will be given from Unit III.

Section-D: Two questions will be set from Unit IV.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Communication Skills in English-I
Course Code: BMLM -1102
(THEORY)

Unit I

Reading Skills: Reading Tactics and strategies; Reading purposes–kinds of purposes and associated comprehension; Reading for direct meanings.

Unit II

Reading for understanding concepts, details, coherence, logical progression and meanings of phrases/ expressions

Activities:
- Comprehension questions in multiple choice format
- Short comprehension questions based on content and development of ideas

Unit III

Writing Skills: Guidelines for effective writing; writing styles for application, personal letter, official/ business letter.

Activities:
- Formatting personal and business letters.
- Organizing the details in a sequential order

Unit IV

Resume, memo, notices, agenda, minutes, Tips for effective blog writing

Activities:
- Converting a biographical note into a sequenced resume or vice-versa
- Ordering and sub-dividing the contents while making notes.
- Writing notices for circulation/boards
- Writing blogs

Recommended Books:

1) *Oxford Guide to Effective Writing and Speaking* by John Seely.
2) *Business Communication,* by Sinha, K.K. Galgotia Publishers, 2003.
3) *Business Communication* by Sethi, A and Adhikari, B., McGraw Hill Education2009.
4) *Communication Skills* by Raman, M. & S. Sharma, OUP, New Delhi, India (2011).

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Communication Skills in English-I
Course Code: BMLM -1102
PRACTICAL / ORAL TESTING

Time: 3 hours **Marks: 20**

Course Contents:

1. Oral Presentation with/without audio visual aids	(10 Marks)
2. Group Discussion	(05 Marks)
3. Practical File	(05 Marks)

Questions:

1. Oral Presentation will be of 5 to 7 minutes duration. (Topic can be given in advance or it can be of student's own choice). Use of audio-visual aids is desirable.
2. Group discussion comprising 8 to 10 students on a familiar topic. Time for each group will be 15 to 20 minutes.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Physiology - I
Course Code: BMLL-1483
(THEORY)

Course Outcomes

After passing this course the student will be able to:

CO1: Understand various parts of brain and their transmission signals.

CO2: Understand autonomous nervous system

CO3: Know about physiology of muscle function

CO4: Know about circulatory system

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Physiology - I
Course Code: BMLL-1483
(THEORY)

Credits: 3-0-0 **Total Marks: 100**

Time: 3 Hours **Theory: 70**

CA: 30

Instructions for paper setter: Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Unit-I

Functions of Principal Parts of the Brain (brain stem, cerebellum, diencephalon, cerebrum),
Action potential, resting membrane potential, Transmission of signal in nervous system, Neurotransmitters, neurotransmitter receptors

Unit -II

Autonomic nervous system, Sympathetic and Parasympathetic Divisions of the ANS, Physiology of Reflex action, Special senses – Hearing, vision, pain, touch, taste

Unit -III

Physiology of muscular system, Sliding filament mechanism of muscle contraction, The contraction cycle, The Neuromuscular Junction

Unit -IV

Physiology of circulatory system, Cardiac cycle, Heart and circulation, Blood pressure, Role of hemoglobin in regulation of respiration, Functions of blood and lymphatic system, Blood clotting.

Books Recommended

1. Guyton, A.C. and Hall, J.E. (2016). Textbook of Medical Physiology. Elsevier Publications, New York

2. Ross and Willson (2010) Anatomy and Physiology. ELBS publication

3. Tortora, G.J. and Grabowski, S.R. (2009). Principles of Anatomy and Physiology. Harper Collins College Publishers

4. Tortora, G.J and Henderson S.R. (2012) Principles of Anatomy and Physiology. Harper Collins College Publishers

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Physiology - I Lab
Course Code: BMLP- 1483
(PRACTICAL)

Course Outcomes

After passing this course the student will be able to:

CO1: Observe joint movements

CO2: Measure blood pressure and pulse rate

CO3: Estimate bleeding time, hemoglobin content and clotting time

CO4: Use and care of micropipette.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Physiology-I Lab
Course Code: BMLP- 1483
(PRACTICAL)

Credits: 0-0-2

Time: 3 Hours

Total Marks: 50

Theory: 35

CA: 15

1. Movements at joints
2. Blood pressure and pulse rate estimation
3. Study of Bleeding time
4. Study of clotting time
5. Estimation of hemoglobin concentration
6. Use and care of Micropipette

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Anatomy - I
Course Code: BMLL-1484
(THEORY)

Course Outcomes

After passing this course the student will be able to:

CO1: Understand anatomy of skeleton system

CO2: Understand muscular system

CO3: Know about anatomy of circulatory system

CO4: Know about respiratory system

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Anatomy - I
Course Code: BMLL-1484
(THEORY)

Credits: 3-0-0 **Total Marks: 100**

Time: 3 Hours **Theory: 70**

CA: 30

Instructions for paper setter: Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Unit- I

Brief anatomy of Skeletal system, Types of bones,

Ossification and growth of bone, Histology of bone, Fracture and repair, Classification of joints

Unit- II

Muscular system –Types of muscular tissue, properties of muscular tissue, Anatomy of smooth, cardiac, skeletal muscle, Microscopic Anatomy of a Skeletal Muscle Fiber, neuromuscular junction.

Unit- III

Brief anatomy of Circulatory system — Blood Composition, Anatomy of heart and blood vessels, Classification of blood vessels, Overview of arterial, venous system and lymphatic system.

Unit- IV

Brief anatomy of Respiratory system — Brief description of constituent parts, Microscopic anatomy of a lobule of the lungs, Structural components of an alveolus, olfactory receptors

Books Recommended

1. Drake, R., Vogl, W. and Mitchell, A. (2015). Gray's Anatomy for Students. Churchill Livingstone, USA.

2. Marieb, E.N. (2004). Human Anatomy and Physiology. Dorling Kindersley (India) Pvt.Ltd., 6th ed.

3. Ross and Willson (2010). Anatomy and Physiology. ELBS Publication.

4. Standring, S. (2008). Gray's Anatomy. Churchill Livingstone, USA. 40th ed.

5. Tortora, G.J. and Grabowski, S.R. (2002). Principles of Anatomy and Physiology. Harper Collins

College Publishers.
6. Tortora, G.J. and Henderson, S.R. (2012). Principles of Anatomy and Physiology. Harper Collins College Publishers.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Anatomy-I Lab
Course Code: BMLP- 1484
(PRACTICAL)

Course Outcomes

After passing this course the student will be able to:

CO1: Observe positions of various parts of human body

CO2: Know about various bones

CO3: Understand bone surface markings

CO4: Understand division of skeleton system

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Basics of Human Anatomy-I Lab
Course Code: BMLP- 1484
(PRACTICAL)

Credits: 0-0-2 **Total Marks: 50**

Time: 3 Hours **Theory: 35**

CA: 15

1. Anatomical positions and terminology — Superior, Inferior, Anterior, Medial, Posterior, Lateral, Proximal, Distal, External, Internal, Parietal, Visceral, Cavities and Planes of human body
2. Parts of a bones
3. Bone surface markings
4. Division of Skeletal system

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Principles of Biochemistry
Course Code: BMLL-1485
(THEORY)

Course Outcomes

After passing this course the student will be able to:

CO1: Understand basic structure and function of Carbohydrates

CO2: Understand role of lipids and nucleic acids in human body

CO3: Learn about classification, structure and function of proteins

CO4: know about role and importance of vitamins and enzymes

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Principles of Biochemistry
Course Code: BMLL-1485
(THEORY)

Credits: 3-0-0 **Total Marks: 100**

Time: 3 Hours **Theory: 70**

CA: 30

Instructions for paper setter: Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Unit- I

Introduction: Principles of living organisms; Elements of living organisms; Fitness of Biomolecules.

Carbohydrates: Definition; Classification of carbohydrates; Structure and functions of various classes of carbohydrates; Monosaccharides, Disaccharides, Polysaccharides

Unit- II

Lipids: Definition; Classification of lipids; structure and functions of various classes of lipids; Triglycerides; Phosphoglycerides; Sphingolipids; Terpenes; Steroids; Eicasonoids; fatty acids and essential fatty acids.

Nucleic acids: Nitrogen bases: Purines and Pyrimidines; Nucleosides and Nucleotides, DNA Structure and its forms; RNA and its types; Differences between DNA and RNA; Biologically important nucleotides.

Unit- III

Proteins: Classification and structures of amino acid; Essential and non essential amino acids, unusual and non-protein amino acids; Important peptides and their functions; Organizational levels of protein structure; Functional and structural classification of proteins.

Unit -IV

Vitamins: Definition; chemistry and functions of water and fat soluble vitamins.

Enzymology: Enzyme nomenclature; Classification and characteristics of enzymes; Enzyme specificity; Cofactors; Co-enzymes and Prosthetic groups; Types of enzyme inhibition; Factors affecting enzyme activity

Books Recommended:

- Nelson DL and Cox MM. (2013) Lehninger Principles of Biochemistry, 6th Edition. Macmillan Worth Publishers, New Delhi.
- Berg JM, Tymoczko JL, Gatto GJ and Stryer L (2015) Biochemistry,8th Edition, WH Freeman & Co., New York.
- Bender DA, Botham KM, Kennelly PJ, Rodwell VW and Weil PA (2015) Harper's Illustrated Biochemistry, 30thEdition, McGraw-Hill Medical Canada.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Principles of Biochemistry Lab
Course Code: BMLP- 1485
(PRACTICAL)

Course Outcomes

After passing this course the student will be able to:

CO1: Learn the preparation of solutions and their use

CO2: Understand working and use of various laboratory equipment

CO3: Learn about handling laboratory equipment in clinical labs.

CO4: Perform Volumetric analysis of solutions

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–I
(Session 2024-25)
Course Title: Principles of Biochemistry Lab
Course Code: BMLP- 1485
(PRACTICAL)

Credits: 0-0-2	**Total Marks: 50**
Time: 3 Hours	**Theory: 35**
	CA: 15

1. Introduction to Biochemistry Laboratory: General Glassware, Equipment: use of analytical balance and general safety measures.
2. Cleaning of glassware: preparation of chromic acid
3. Calibration of Laboratory equipment
4. Preparation of reagents
   a. Preparation of distilled water
   b. Preparation of 1N NaOH
   c. Preparation of 1N HCl
   d. Preparation of normal saline
5. To demonstrate the phenomenon of Dialysis
6. Use of pH meter and preparation of Buffer.
7. Use of Centrifuge with different types of Rotor
8. Use of spectrophotometer and colorimeter.
9. To find the absorption maxima of a dye.
10. To find the absorption maxima of aromatic amino acids.
11. To demonstrate Beer- Lambert's Law.
12. Volumetric analysis- acid base titration

FOUNDATION COURSE

Course Title: Foundation Course

Nature of Course: Audit Course (Value Added)

Course Duration: 30 hours

Course intended for: Semester I students of undergraduate degree programs of all 25 streams.

Course Credits: 2

Course Code: SECF-I

PURPOSE & AIM

This course has been designed to strengthen the intellectual foundation of all the new entrants in the college. One of the most common factors found in the students seeking admission in college after high school is the lack of an overall view of human history, knowledge of global issues, peaks of human intellect, social/political thinkers and inventors & discoverers who have impacted human life. For a student, the process of transition from school to college is full of apprehension and skepticism regarding adapting themselves to new system. The Foundation Program intends to bridge the gap between high school and college education and develop an intellectual readiness and base for acquiring higher education.

INSTRUCTIONAL OBJECTIVES

- to enable the students to realise their position in the whole saga of time and space
- to inculcate in them an appreciation of life, cultures and people across the globe
- to promote, in the students, an awareness of human intellectual history
- to make them responsible and humane world citizens so that they can carry forward the rich legacy of humanity

LEARNING OUTCOMES

After the completion of this Audit course, students will be able to

- learn how past societies, systems, ideologies, governments, cultures and technologies were built, how they operated, and how they have changed
- understand how the rich history of the world helps us to paint a detailed picture of where we stand today
- understand the Vedic theism, Upanishads Philosophy and doctrines of Jainism, Buddhism and Sikhism

- acquire knowledge of women rights and courage to face day to day challenges
- acknowledge the changes in society, religion and literature in the renaissance period and the importance of empathy and compassion for humanity
- learn about the prominent Indians (Men and Women) who contributed significantly in freedom struggle, education, economic development and in the formation and evolution of our nation
- understand meaning of race and how that concept has been used to justify exclusion, inequality, and violence throughout history and the origin of civil right movements to fight for equality, liberty and fraternity
- critically evaluate the socio-political and economic issues at global level and its implications in the present
- upgrade and enhance learning technological skills and striking a balance between technology and their well being
- take pride in learning the saga of Indian Past Culture and Heritage
- understand the rich legacy of KMV and its progressive endeavours

MODULE	TITLE	CONTACT HOURS
I	**Introduction and Initial Assessment**	**2**
II	**The Human Story**	**3**
III	***The Vedas* and the Indian Philosophy**	**2.5**
IV	**The Journey of Woman The Story and the Dream**	**2.5**
V	**Changing Paradigms in Society, Religion & Literature**	**2.5**
VI	**Makers of Modern India**	**2.5**
VII	**Racism: Story of the West**	**2.5**
VIII	**Modern World at a Glance: Political & Economic Perspective**	**2.5**
IX	**Technology Vis a Vis Human Life**	**2.5**
X	**My Nation My Pride**	**2.5**
XI	**The KMV Experience**	**2.5**
XII	**Final Assessment, Feedback and Closure**	**2.5**

EXAMINATION

- **Total Marks: 50 (Final Exam: 35; Internal Assessment: 15)**
- Final Exam: multiple choice quiz**.** Marks – 35; Time: 1 hour
- Internal Assessment: 15 (Assessment: 5; Attendance: 10)
  Comparative assessment questions (medium length) in the beginning and close of the program.
  Marks: 5; Time: 0.5 hour each at the beginning and end.

- Total marks: 50 converted to grade for final result
- Grading system: 90% marks & above: A grade
  80% - 89% marks: B grade
  70% - 79% marks: C grade
  60% - 69% marks: D grade
  50% - 59% marks: E grade

  Below 50% marks: F grade (Fail - must give the exam again)

SYLLABUS

Module I Being a Human: Introduction & Initial Assessment

- Introduction to the program
- Initial Assessment of the students through written answers to a couple of questions

Module 2 The Human Story

- Comprehensive overview of human intellectual growth right from the birth of human history
- The wisdom of the Ancients
- Dark Middle Ages
- Revolutionary Renaissance
- Progressive modern times
- Most momentous turning points, inventions and discoveries

Module 3 *The Vedas* and the Indian Philosophy

- Origin, teachings and significance of *The Vedas*
- Upnishads and Puranas
- Karma Theory of *The Bhagwad Gita*
- Main tenets of Buddhism & Jainism
- Teachings of Guru Granth Sahib

Module 4 Changing Paradigms in Society, Religion & Literature

- Renaissance: The Age of Rebirth
- Transformation in human thought
- Importance of humanism
- Geocentricism to heliocentricism
- Copernicus, Galileo, Columbus, Darwin and Saint Joan

- Empathy and Compassion

Module 5 Woman: A Journey through the Ages

- Status of women in pre-vedic times
- Women in ancient Greek and Roman civilizations
- Women in vedic and ancient India
- Status of women in the Muslim world
- Women in the modern world
- Crimes against women
- Women labour workforce participation
- Women in politics
- Status of women- our dream

Module 6 Makers of Modern India

- Early engagement of foreigners with India
- Education: The first step to modernization
- Railways: The lifeline of India
- Raja Ram Mohan Roy, Gandhi, Nehru, Vivekanand, Sardar Patel etc.
- Indira Gandhi, Mother Teresa, Homai Vyarawala etc.
- The Way Ahead

Module 7 Racism: Story of the West

- European beginnings of racism
- Racism in the USA - Jim Crow Laws
- Martin Luther King Jr. and the battle against racism
- Apartheid and Nelson Mandela
- Changing face of racism in the modern world

Module 8 Modern World at a Glance: Political & Economic Perspective

- Changing world order
- World War I & II
- UNO and The Commonwealth
- Nuclear Powers; Terrorism
- Economic Scenario: IMF, World Bank

- International Regional Economic Integration

Module 9 Technology Vis a Vis Human Life

- Impact of technology on modern life
- Technological gadgets and their role in our lives
- Technology and environment
- Consumerism and materialism
- Psychological and emotional consequences of technology
- Harmonizing technology with ethics and humaneness

Module 10 My Nation My Pride

- Indian Past Culture and Heritage
- Major Discoveries (Medicinal and Scientific)
- Vedic Age
- Prominent Achievements
- Art, Architecture and Literature

Module 11 The KMV Experience

- Rich Legacy of KMV
- Pioneering role in women emancipation and empowerment
- KMV Contribution in the Indian Freedom Struggle
- Moral, cultural and intellectual heritage of KMV
- Landmark achievements
- Innovative initiatives; international endeavours
- Vision, mission and focus
- Conduct guidelines for students

Module 12 Final Assessment, Feedback & Closure

- Final multiple choice quiz
- Assessment through the same questions asked in the beginning
- Feedback about the programme from the students
- Closure of the programme

PRESCRIBED READING

- ***The Human Story*** published by Dawn Publications

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Punjabi (Compulsory)
Course Code- BMLL-2421

COURSE OUTCOMES

CO1: ਸਰਵੋਤਮ ਪੰਜਾਬੀ ਕਵਿਤਾ ਤੇ ਕਹਾਣੀ ਪੁਸਤਕ ਦੇ ਕਹਾਣੀ ਭਾਗ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਹਾਣੀ ਨੂੰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਕਹਾਣੀ ਜਗਤ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO2: ਗੱਦ ਪ੍ਰਵਾਹ ਪੁਸਤਕ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨ ਗਿਆਨ ਦੇਣਾ ਹੈ।

CO3: ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ, ਪਰਿਭਾਸ਼ਾ, ਮੁੱਢਲੇ ਸੰਕਲਪ, ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

CO4: ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਮੇਂ ਅਤੇ ਮਿਹਨਤ ਦੀ ਬੱਚਤ ਕਰਨ ਬਾਰੇ ਦੱਸਣਾ ਹੈ। ਮੁਹਾਵਰੇ / ਅਖਾਣ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Punjabi (Compulsory)
Course Code- BMLL-2421

ਸਮਾਂ ਤਿੰਨ ਘੰਟੇ	**Maximum Marks: 100**
L-T-P	**Theory : 70**
4-0-0	**CA : 30**

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹੋਣਗੇ।ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।

3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।

4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਸਰਵੋਤਮ ਪੰਜਾਬੀ ਕਵਿਤਾ ਤੇ ਕਹਾਣੀ (ਸੰਪਾ. ਡਾ. ਰਮਿੰਦਰ ਕੌਰ, ਡਾ. ਮੇਘਾ ਸਲਵਾਨ) ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ। (ਕਹਾਣੀ ਭਾਗ)

ਕਹਾਣੀ ਦਾ ਸਾਰ/ਵਿਸ਼ਾ੍ਵਸਤੂ 14 ਅੰਕ

ਯੂਨਿਟ-II

ਗੱਦ ਪ੍ਰਵਾਹ (ਰੇਖਾ ਚਿਤਰ ਤੇ ਹਲਕੇ ਲੇਖ)

(ਸੰਪਾ. ਡਾ. ਬਿਕਰਮ ਸਿੰਘ ਘੁੰਮਣ ਅਤੇ ਜਸਪਾਲ ਸਿੰਘ),

ਗਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ) 14 ਅੰਕ

ਯੂਨਿਟ-III

(ੳ) ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ, ਪਰਿਭਾਸ਼ਾ, ਮੁੱਢਲੇ ਸੰਕਲਪ
(ਅ) ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ 14 ਅੰਕ

ਯੂਨਿਟ-IV

ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ

ਮੁਹਾਵਰੇ ਅਤੇ ਅਖਾਣ 14 ਅੰਕ

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: BASIC PUNJABI in lieu of Punjabi (Compulsory)
COURSE CODE – BMLL -2031

Course outcomes

CO1: ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ (ਨਾਂਵ, ਪੜਨਾਂਵ, ਕਿਰਿਆ, ਵਿਸ਼ੇਸ਼ਣ, ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ, ਸਬੰਧਕ, ਯੋਜਕ ਅਤੇ ਵਿਸਮਿਕ) ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

CO2: ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਾਕ ਬਣਤਰ (ਸਾਧਾਰਨ ਵਾਕ, ਸੰਯੁਕਤ ਵਾਕ, ਮਿਸ਼ਰਤ ਵਾਕ, ਬਿਆਨੀਆ ਵਾਕ, ਪ੍ਰਸ਼ਨ ਵਾਚਕ ਵਾਕ ਅਤੇ ਹੁਕਮੀ ਵਾਕ) ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਇਸ ਦੀ ਬਣਤਰ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ ਅਤੇ ਉਨ੍ਹਾਂ ਦੀ ਭਾਸ਼ਾ ਤੇ ਪਕੜ ਮਜਬੂਤ ਹੋਵੇਗੀ।

CO3: ਪੈਰ੍ਹਾ ਰਚਨਾ ਅਤੇ ਸੰਖੇਪ ਰਚਨਾ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO4: ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ ਲਿਖਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾ ਵਿਚ ਨਿਪੁੰਨ ਕਰਨਾ ਹੈ। ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰੇ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: BASIC PUNJABI in lieu of Punjabi (Compulsory)

COURSE CODE - BMLL -2031

ਸਮਾਂ : 3 ਘੰਟੇ **Maximum Marks: 100**

L-T-P : 4-0-0 **Theory: 70**

CA : 30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹੋਣਗੇ।ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।

3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।

4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ

ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ (ਨਾਂਵ, ਪੜਨਾਂਵ, ਕਿਰਿਆ, ਵਿਸ਼ੇਸ਼ਣ, ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ, ਸਬੰਧਕ,

ਯੋਜਕ ਅਤੇ ਵਿਸਮਿਕ) 14 ਅੰਕ

ਯੂਨਿਟ-II

ਪੰਜਾਬੀ ਵਾਕ ਬਣਤਰ : ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ

(ੳ) ਸਾਧਾਰਨ ਵਾਕ, ਸੰਯੁਕਤ ਵਾਕ ਅਤੇ ਮਿਸ਼ਰਤ ਵਾਕ (ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ)

(ਅ) ਬਿਆਨੀਆ ਵਾਕ, ਪ੍ਰਸ਼ਨ ਵਾਚਕ ਵਾਕ ਅਤੇ ਹੁਕਮੀ ਵਾਕ (ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ) 14 ਅੰਕ

ਯੂਨਿਟ-III

ਪੈਰ੍ਹਾ ਰਚਨਾ

ਸੰਖੇਪ ਰਚਨਾ 14 ਅੰਕ

ਯੂਨਿਟ-IV

ਚਿੱਠੀ ਪੱਤਰ (ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ)

ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰੇ (ਲਿਸਟ ਨਾਲ ਨੱਥੀ ਹੈ) **14 ਅੰਕ**

ਅਖਾਣ

ਉਠੇ ਤਾ ਉੱਠ ਨਹੀਂ ਰੇਤੇ ਦੀ ਮੁੱਠ ,ਉੱਦਮ ਅੱਗੇ ਲੱਛਮੀ ਪੱਖੇ ਅੱਗੇ ਪੈਣ ,ਉਹ ਦਿਨ ਡੁੱਬਾ ਜਦੋਂ ਘੋੜੀ ਚੜ੍ਹਿਆ ਕੁੱਬਾ ,ਉੱਚੀ ਦੁਕਾਨ ਫਿੱਕਾ ਪਕਵਾਨ ,ਉਲਟੀ ਵਾੜ ਖੇਤ ਨੂੰ ਖਾਏ ,ਉੱਚਾ ਲੰਮਾ ਗੱਭਰੂ ਪੱਲੇ ਠੀਕਰੀਆਂ , **ਅਸ਼ਰਫ਼ੀਆਂ ਦੀ ਲੁੱਟ ਤੇ ਕੋਲਿਆਂ ਤੇ ਮੁਹਰਾਂ, ਅੱਗੇ ਸੱਪ ਪਿੱਛੇ ਸ਼ੀਂਹ, ਆਦਰ ਤੇਰੀ ਚਾਦਰ ਨੂੰ ਬਹਿਣਾ ਤੇਰੇ ਗਹਿਣੇ ਨੂੰ, ਆਪੇ ਫਾਥੜੀਏ ਤੈਨੂੰ ਕੌਣ ਛੁਡਾਏ, ਆਪਣੇ ਹੱਥੀਂ ਆਪਣਾ ਆਪੇ ਹੀ ਕਾਜ ਸਵਾਰੀਐ, ਆਰੀ ਨੂੰ ਇੱਕ ਪਾਸੇ ਦੰਦੇ ਜਹਾਨ ਨੂੰ ਦੋਹੀਂ ਪਾਸੀਂ,**ਅੱਖੀਂ ਵੇਖ ਕੇ ਮੱਖੀ ਨਹੀਂ ਨਿਗਲੀ ਜਾਂਦੀ ,ਅੰਦਰ ਹੋਵੇ ਸੱਚ ਤਾਂ ਕੋਠੇ ਚੜ੍ਹ ਕੇ ਨੱਚ ,ਆਪੇ ਮੈਂ ਰੱਜੀ ਪੁੱਜੀ ਆਪੇ ਮੇਰੇ ਬੱਚੇ ਜਿਉਣ ,ਆਪ ਕੁਚੱਜੀ ਵਿਹੜੇ ਨੂੰ ਦੋਸ਼ ,ਅੰਨ੍ਹਾ ਵੰਡੇ ਰਿਉੜੀਆਂ ਮੁੜ ਮੁੜ ਆਪਣਿਆਂ ਨੂੰ ,ਅਕਲ ਵੱਡੀ ਕੇ ਮੱਝ ,ਅੰਨ੍ਹਿਆਂ ਵਿੱਚ ਕਾਣਾ ਰਾਜਾ ,ਆਪਣੀ ਪੀੜ੍ਹੀ ਹੇਠ ਸੋਟਾ ਫੇਰਨਾ ,ਇਕ ਅਨਾਰ ਸੌ ਬਿਮਾਰ ,ਇਕ ਹੱਥ ਨਾਲ ਤਾੜੀ ਨਹੀਂ ਵੱਜਦੀ ,ਇੱਕ ਚੁੱਪ ਸੌ ਸੁੱਖ ਛੁੱਟ ਮੰਗਣੀ ਪੱਟ ਵਿਆਹ ,ਸਹਿਜ ਪੱਕੇ ਸੋ ਮੀਠਾ ਹੋਵੇ ,ਦਾਲ ਵਿੱਚ ਕਾਲਾ ਹੋਣਾ , **ਸੰਗ ਤਾਰੇ ਕੁਸੰਗ ਡੋਬ,** ਸੱਦੀ ਨਾ ਬੁਲਾਈ ਮੈਂ ਲਾੜੇ ਦੀ ਤਾਈਂ ,ਸਵੈ ਭਰੋਸਾ ਵੱਡਾ ਤੋਸਾ,ਸੌ ਦਿਨ ਚੋਰ ਦੇ ਇਕ ਦਿਨ ਸਾਧ ਦਾ ,ਸੱਪ ਦਾ ਬੱਚਾ ਸਪੋਲੀਆ ,ਸੱਪ ਮਰ ਜਾਵੇ ਲਾਠੀ ਵੀ ਨਾ ਟੁੱਟੇ ,ਸਾਈਆਂ ਕਿਤੇ ਵਧਾਈਆਂ ਕਿਤੇ ,ਹੰਕਾਰਿਆ ਸੋ ਮਾਰਿਆ , **ਹੱਥ ਨੂੰ ਹੱਥ ਧੋਂਦਾ ਹੈ,** ਹਾਥੀ ਲੰਘ ਗਿਆ ਪੂਛ ਰਹਿ ਗਈ, **ਕੋਹ ਨਾ ਚੱਲੀ ਬਾਬਾ ਤਿਹਾਈ**,ਕੁੱਛੜ ਕੁੜੀ ਸ਼ਹਿਰ ਢੰਡੋਰਾ ,ਕੋਲਿਆਂ ਦੀ ਦਲਾਲੀ ਵਿੱਚ ਮੂੰਹ ਕਾਲਾ ,ਕਰੇ ਕੋਈ ਭਰੇ ਕੋਈ , **ਖਿੱਦੋ ਫ਼ਰੋਲਿਆਂ ਲੀਰਾਂ ਹੀ ਨਿਕਲਦੀਆਂ ਹਨ,** ਖ਼ਵਾਜੇ ਦਾ ਗਵਾਹ ਡੱਡੂ ,ਖੇਤੀ ਖਸਮਾਂ ਸੇਤੀ , **ਖਰਬੂਜ਼ੇ ਨੂੰ ਦੇਖ ਕੇ ਖਰਬੂਜ਼ਾ ਰੰਗ ਬਦਲਦਾ ਹੈ,**ਖੂਹ ਪੁੱਟਦੇ ਨੂੰ ਖਾਤਾ ਤਿਆਰ , **ਘੜੇ ਨੂੰ ਹੱਥ ਲਾਇਆ ਸਾਰਾ ਟੱਬਰ ਤਿਹਾਇਆ,**ਘਰ ਦਾ ਭੇਤੀ ਲੰਕਾ ਢਾਹੇ ,ਘਰ ਦੀ ਕੁੱਕੜੀ ਦਾਲ ਬਰਾਬਰ ,ਚਿੰਤਾ ਚਿਖਾ ਬਰਾਬਰ , ਛੱਜ ਤਾਂ ਬੋਲੇ ਛਾਣਨੀ ਵੀ ਬੋਲੇ,ਛੋਟੀ ਮੂੰਹ ਵੱਡੀ ਗੱਲ , **ਜੋ ਰਾਤੀਂ ਜਾਗਣ ਕਾਲੀਆਂ ਸੋ ਹੀ ਖਾਣ ਸੁਖਾਲੀਆਂ** ,ਜਾਂਦੇ ਚੋਰ ਦੀ ਲੰਗੋਟੀ ਹੀ ਸਹੀ ,ਜਿਸ ਦੀ ਕੋਠੀ ਦਾਣੇ ਉਹਦੇ ਕਮਲੇ ਵੀ ਸਿਆਣੇ ,ਜਿਹੜੇ ਗੱਜਦੇ ਨੇ ਉਹ ਵਰ੍ਹਦੇ ਨਹੀਂ , ਛੁੱਟ ਮੰਗਣੀ ਪੱਟ ਵਿਆਹ , **ਨਵਾਂ ਨੌ ਦਿਨ ਪੁਰਾਣਾ ਸੌ ਦਿਨ, ਪਾਣੀ ਵਿੱਚ ਸੋਟਾ ਮਾਰਿਆਂ ਪਾਣੀ ਦੋ ਨਹੀਂ ਹੋ ਜਾਂਦੇ, ਵਿੱਦਿਆ ਵਿਚਾਰੀ ਤਾਂ ਪਰਉੱਪਕਾਰੀ, ਵੇਲੇ ਦੀ ਨਮਾਜ਼ ਕੁਵੇਲੇ**

ਦੀਆਂ ਟੱਕਰਾਂ, ਇਕ ਦਰ ਬੰਦ ਸੌ ਦਰ ਖੁੱਲ੍ਹਾ, ਬਿੱਲੀ ਦੇ ਸਿਰ੍ਹਾਣੇ ਦੁੱਧ ਨਹੀਂ ਜੰਮਦਾ,ਰੱਸੀ ਸੜ ਗਈ ਵੱਟ ਨ੍ਹੀਂ ਗਿਆ

ਮੁਹਾਵਰੇ

ਉਸਤਾਦੀ ਕਰਨੀ, ਉਂਗਲ ਕਰਨੀ, ਉੱਲੂ ਬਣਾਉਣਾ ,ਉੱਚਾ ਸਾਹ ਨਾ ਕੱਢਣਾ, ਉੱਡਦੇ ਫਿਰਨਾ ,ਉੱਘ ਸੁੱਘ ਮਿਲਣੀ,ਅੱਖਾਂ ਵਿਚ ਰੜਕਣਾ , **ਉਂਗਲਾਂ ਤੇ ਨਚਾਉਣਾ, ਉਧੜ-ਧੁੰਮੀ ਮਚਾਉਣਾ, ਊਠ ਦੇ ਮੂੰਹ ਵਿੱਚ ਜ਼ੀਰਾ ਦੇਣਾ,** ਅੱਗ ਲਾਉਣਾ ,ਆਵਾ ਊਤ ਜਾਣਾ ,ਅਸਮਾਨ ਨੂੰ ਟਾਕੀਆਂ ਲਾਉਣਾ, ਅੱਖਾਂ ਵਿੱਚ ਲਾਲੀ ਉਤਰਨੀ ,ਅਕਲ ਤੇ ਪਰਦਾ ਪੈਣਾ, **ਅੱਖਾਂ ਅੱਗੇ ਖੋਪੇ ਚਾੜ ਦੇਣੇ, ਅੱਖਾਂ ਉੱਤੇ ਬਿਠਾਉਣਾ, ਅੱਲੇ ਫੱਟਾਂ ਤੇ ਲੂਣ ਛਿੜਕਣਾ, ਆਪਣੇ ਅੱਗੇ ਕੰਡੇ ਬੀਜਣਾ, ਆਪਣੇ ਤਰਕਸ਼ ਵਿੱਚ ਤੀਰ ਹੋਣਾ, ਸਿਰ ਚੜ੍ਹਨਾ,** ਈਨ ਮੰਨਣੀ, ਈਦ ਦਾ ਚੰਨ ਹੋਣਾ, ਇੱਟ ਨਾਲ ਇੱਟ ਖੜਕਾਉਣਾ,ਸਿਰ ਫਿਰਨਾ, ਸਿਰ ਤੇ ਚੜ੍ਹਨਾ ,ਸਬਰ ਦਾ ਘੁੱਟ ਭਰਨਾ, ਸਿਰ ਪੈਰ ਨਾ ਹੋਣਾ, **ਸਿਰ ਖੁਰਕਣ ਦੀ ਵੇਹਲ ਨਾ ਹੋਣਾ, ਸੱਠੀ ਦੇ ਚੌਲ ਖੁਆਣੇ,** ਹੱਥ ਧੋ ਕੇ ਪਿੱਛੇ ਪੈਣਾ, ਹੱਥੀਂ ਛਾਂਵਾਂ ਕਰਨੀਆਂ, ਹੱਡ ਭੰਨਣੇ, ਹੱਥ ਤੰਗ ਹੋਣਾ ,ਹੱਥ ਮਲਣਾ,ਹੱਥ ਪੈਰ ਮਾਰਨਾ, **ਹੱਥ ਉੱਤੇ ਹੱਥ ਧਰ ਕੇ ਬੈਠਣਾ, ਹੱਥ ਵਟਾਉਣਾ, ਹਵਾ ਦੇ ਘੋੜੇ ਸਵਾਰ ਹੋਣਾ,** ਕੰਨੀਂ ਕਤਰਾਉਣਾ, ਕੰਨ ਤੇ ਜੂੰ ਨਾ ਸਰਕਣਾ, ਕੰਨ ਘੇਸਲ ਮਾਰਨੀ**, ਕਣਕ ਨਾਲ ਘੁਣ ਵੀ ਪਿਸਣਾ, ਕੱਖ ਭੰਨ ਕੇ ਦੂਹਰਾਂ ਨਾ ਕਰਨਾ, ਕਲਮ ਦੇ ਧਨੀ ਹੋਣਾ, ਕਿਤਾਬੀ ਕੀੜਾ ਹੋਣਾ,** ਖ਼ਾਨਾ ਖ਼ਰਾਬ ਹੋਣਾ, ਖਾਨਿਓ ਜਾਣਾ, **ਖੂਹ ਨਿਖੁੱਟ ਜਾਣਾ,** ਗੁੱਡੀ ਚੜ੍ਹਨੀ, ਗਲ ਪੈਣਾ ,ਗੰਗਾ ਨਹਾਉਣਾ ,ਚੜ੍ਹ ਮੱਚਣੀ, ਚੰਦ ਚਾੜ੍ਹਨਾ, ਚਾਦਰ ਵੇਖ ਕੇ ਪੈਰ ਪਸਾਰਨਾ ,ਚਕਮਾ ਦੇਣਾ ,ਛੱਕੇ ਛੜਾਉਣਾ ,ਛਾਪਾ ਮਾਰਨਾ, ਛਿੱਲ ਲਾਉਣੀ ,ਛਿੱਕੇ ਟੰਗਣਾ

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Punjab History and Culture (C. 320 to 1000 A.D.)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)
Course Code: BMLL-2431

COURSE OUTCOMES

After completing Semester II and course on Ancient History of Punjab students will be able to understand:

CO 1: The reasons and impact of Alexander's invasions and to comprehend various factors leading to rise and fall of empires and emergence of new dynasties and their administration specifically of Maurya rule in general and Ashok in particular

CO 2: art and architecture of Gupta period and the Indo-Greek style of architecture under Gandhara School

CO 3: To have an insight into the socio-cultural history under Harshvardhan and punjab under the stated period

CO 4: To enable students to have thorough insight into the various forms/styles of Architecture and synthesis of Indo - Greek Art and Architecture in Punjab

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Punjab History and Culture (C. 320 to 1000 A.D.)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)
Course Code: BMLL-2431

Examination Time: 3 Hours | Max. Marks: 100
Credits L-T-P: 4-0-0 | Theory: 70
CA: 30

Instructions for the Paper Setter:

1. Question paper shall consist of four Units
2. Examiner shall set 8 questions in all by selecting Two Questions of equal marks from each Unit.
3. Candidates shall attempt 5 questions in 800 words, by at least selecting One Question from each Unit and the 5^{th} question may be attempted from any of the four Units.
4. Each question will carry 14 marks

UNIT-I

1. Alexander's Invasion's and Impact
2. Administration of Chandragupta Maurya with special reference to reforms introduced by Ashok

UNIT-II

3. The Kushans: Gandhar School of Art
4. Gupta Empire: Golden Period-Social and cultural life, Art and Architecture)

UNIT-III

5. The Punjab under Harshvardhana-Society and Religion During the time of Harshvardhana
6. Socio-cultural History of Punjab from 7^{th} to 1000 A.D.

UNIT IV

7. Development of Languages and Education with Special reference to Taxila
8. Development to Art and Architecture

Suggested Readings

- B.N. Sharma: *Life in Northern India*, Delhi. 1966
- Budha Parkash, *Glimpses of Ancient Punjab*, Patiala, 1983.
- L. M Joshi (ed), *History and Culture of the Punjab*, Art-I, Punjabi University, Patiala, 1989 (3rd edition)
- L.M. Joshi and Fauja Singh (ed.), *History of Punjab*, Vol.I, Punjabi University, Patiala, 1977.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II

(Session 2024-25)

Course Title: Communication Skills in English-II

Course Code: BMLM-2102
(THEORY)

Course Outcomes

After passing this course the student will be able to:

CO 1: Enhancement of listening skills with the help of listening exercises based on conversation, news and TV reports

CO 2: The ability of Note-Taking to be able to distinguish the main points from the supporting details and the irrelevant information from the relevant one

CO 3: Improvement of speaking skills enabling them to converse in a specific situation

CO 4: Acquisition of knowledge of phonetics which will help them in learning about correct pronunciation as well as effective speaking

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Communication Skills in English-II
Course Code: BMLM-2102
(THEORY)

Time: 3 hours **Max. Marks: 100**
L-T-P (Credits): 3-0-1 **Theory: 50**
Practical: 20
CA: 30

Instructions for the paper setter and distribution of marks:

The question paper will consist of four sections. The candidate will have to attempt five questions in all selecting one from each section and the fifth question from any of the four sections. Each question will carry 10 marks. Each question can be sub divided into two parts.

(10x5=50)

Section-A: Two questions of theoretical nature will be set from Unit I.

Section-B: Two questions will be given to the students from Unit II.

Section-C: Two questions will be given from Unit III.

Section-D: Two questions will be set from Unit IV

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Communication Skills in English-II
Course Code: BMLM-2102
(THEORY)

Unit I

Listening Skills: Barriers to listening; effective listening skills; feedback skills

Activities: Listening exercises – Listening to conversation, News and TV reports

Unit II

Attending telephone calls; note taking and note making

Activities: Taking notes on a speech/lecture

Unit III

Speaking and Conversational Skills: Components of a meaningful and easy conversation, understanding the cue and making appropriate responses, forms of polite speech, asking and providing information on general topics

Activities: 1) Making conversation and taking turns

2) Oral description or explanation of a common object, situation or concept

Unit IV

The study of sounds of English, Stress

Situation based Conversation in English Essentials of Spoken English

Activities: Giving Interviews

Recommended Books:

1. Oxford Guide to Effective Writing and Speaking by John Seely.

2. Business Communication by Sethi, A and Adhikari, B., McGraw Hill Education 2009.

3. Communication Skills by Raman, M. & S. Sharma, OUP, New Delhi, India (2011).

4. A Course in Phonetics and Spoken English by J. Sethi and P.V. Dhamija, Phi Learning.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Communication Skills in English-II
Course Code: BMLM-2102
PRACTICAL / ORAL TESTING

Time: 3 hours **Marks: 20**

Course Contents:

1. Oral Presentation with/without audio visual aids (10 Marks)

2. Mock Interview (05 Marks)

3. Listening to any recorded or live material and asking oral questions for listening comprehension (05 Marks)

Questions:

1. Oral Presentation will be of 5 to 7 minutes duration. (Topic can be given in advance or it can be of student's own choice). Use of audio-visual aids is desirable.
2. Mock Interview will be conducted

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Hematology-I
Course Code: BMLL- 2483
(THEORY)

Course Outcomes

After passing this course the student will be able to:

CO1: Perform basic hematological laboratory testing, assess laboratory data and report findings according to laboratory protocol.

CO2: Correlate hematological findings with those generated in other areas of the clinical Laboratory.

CO3: Diagnose patient symptoms and clinical history

CO4: To make appropriate and effective on-the-job professional decisions.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Hematology-I
Course Code: BMLL- 2483
(THEORY)

Credits: 3-0-0 **Total Marks: 100**

Time: 3 Hours **Theory: 70**

CA: 30

Instructions for paper setter: Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Unit- I

Introduction to Hematology: Definition and significance of hematology, Blood and its various components, Erythropoiesis, Leucopoiesis, Thrombopoiesis, Leucocytes, Development of Blood corpuscles, red blood cells in general blood circulation.

Unit- II

Hemoglobin and its various types of Hemoglobin, Iron metabolism, Hemoglobin derivatives

Unit- III

Hematological Disorders: Anemia, various types of anemia, Megaloblastic Anemia, Iron deficiency Anemia, Hemolytic Anemia, Pernicious Anemia, Sideroblastic anemia, Sickle Cell anemia.

Unit-IV

Thalassemia, Polycythemia, Leukemia, Multiple Myeloma, Di-Guglielmo Syndrome, Hereditary Spherocytosis, Hereditary Elliptocytosis, Haemolytic disease of newborn, Infectious Mononucleosis, Parasitic infections of blood.

Books Recommended:

- Godkar, PB and Godkar, DP (2008) Text Book of Medical Laboratory Technology, 2nd edition Bhalani Publishing House, Mumbai, India.
- Martin R. Howard & Peter J Hamilton (2013) Text Book of Hematology, 4thedition, ChurchillLivingstone.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Hematology-I Lab
Course Code: BMLP- 2483
(PRACTICAL)

Course Outcomes

After passing this course the student will be able to:

CO1: Perform basic hematological laboratory testing, assess laboratory data and report findings according to laboratory protocol.

CO2: Adapt hematology laboratory techniques and procedures when errors and discrepancies in results are obtained to effect resolution in a professional and timely manner.

CO3: Distinguish normal and abnormal hematological laboratory findings to predict the diagnosis of hematological disorders and diseases.

CO4: Recognize laboratory results consistent with leukemia and other white blood cell disorders.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Hematology-I Lab
Course Code: BMLP- 2483
(PRACTICAL)

Credits: 0-0-2 **Total Marks: 50**

Time: 3 Hours **Theory: 35**

CA: 15

1. Basic requirements for Hematology laboratory
2. Glassware for Hematology
3. Equipments for Hematology
4. Anticoagulant vial preparation
5. Complete Blood Count
6. Determination of Hemoglobin
7. RBC count by Hemocytometer
8. TLC by Hemocytometer
9. Differential Leukocyte count
10. Determination of Platelet Count

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Basics in Human Physiology – II
Course Code: BMLL- 2484
(THEORY)

Course Outcomes

After passing this course the student will be able to:

CO1: Understand physiology of respiratory system and olfaction.

CO2: Learn about digestion and various receptors associated with digestion.

CO3: Study male and female reproductive system and their physiology.

CO4: Understand physiology of excretory system and endocrine glands.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II

(Session 2024-25)

Course Title: Basics in Human Physiology - II
Course Code: BMLL- 2484
(THEORY)

Credits: 3-0-0 **Total Marks: 100**

Time: 3 Hours **Theory: 70**

CA: 30

Instructions for paper setter: Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Unit-I

Physiology of respiratory system, external and internal respiration, Transport of oxygen (O2) and carbon dioxide (CO2) in the blood, chemical reactions that occur during gas exchange, Physiology of olfaction.

Unit-II

Physiology of digestive system, Digestive Enzymes, functions of the liver, Absorption of digested nutrients in the small intestine, faeces formation and defecation, Physiology of taste, Gustatory receptor.

Unit-III

Physiology of Male and Female Reproductive System, Hormonal control of spermatogenesis, Hormonal Regulation of the Female Reproductive Cycle, Menstruation

Unit-IV

Physiology of excretion, functions of kidneys, urine formation, Regulation of body fluids by kidneys, Basics functions of endocrine glands.

Books Recommended:

1. Guyton, A.C. and Hall, J.E. (2016). Textbook of Medical Physiology. Elsevier Publications, New York.

2. Ross and Willson (2010) Anatomy and Physiology. ELBS publication.

3. Tortora, G.J. and Grabowski, S.R. (2009). Principles of Anatomy and Physiology. Harper Collins College Publishers.

4. Tortora, G.J and Henderson S.R. (2012) Principles of Anatomy and Physiology. Harper Collins College Publishers.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Basics of Human Physiology – II Lab
Course Code: BMLP- 2484
(PRACTICAL)

Course Outcomes

After passing this course the student will be able to:

CO1: Know and use of microscope

CO2: Calculate leukocyte count

CO3: Determine Differential leukocyte

CO4: Learn about osmotic fragility of RBC

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Basics of Human Physiology – II Lab
Course Code: BMLP- 2484
(PRACTICAL)

Credits: 0-0-2 **Total Marks: 50**

Time: 3 Hours **Theory: 35**

CA: 15

1. Study the parts of Microscope
2. Use and care of Microscope
3. To determine Total leucocyte count
4. To determine Differential leucocyte count using Leishman's stain
5. Osmotic fragility of RBC

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Basics of Human Anatomy-II
Course Code: BMLL- 2485
(THEORY)

Course Outcomes

After passing this course the student will be able to:

CO1: Understand anatomy of nervous system.

CO2: Learn about Integumentary system.

CO3: Study anatomy of digestive and urinary system.

CO4: Understand anatomy of reproductive.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Basics of Human Anatomy-II
Course Code: BMLL- 2485
(THEORY)

Credits: 3-0-0 **Total Marks: 100**

Time: 3 Hours **Theory: 70**

CA: 30

Instructions for paper setter: Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

Unit-I

Brief anatomy of Nervous system — Structure of brain and spinal cord, Parts of a Neuron, Neuroglia, Ion channels, Ascending and descending tracts of neurons, Autonomic nervous system, Special senses - Eye, ear.

Unit-II

Integumentary system - Skin, hair, nail, touch receptors, Types of cells in the epidermis, Layers of the epidermis, Endocrine system – Brief anatomy of endocrine glands, Glands and their hormones (Hypothalamus, Pituitary, Thyroid, Parathyroid, Adrenal, Pancreatic Islets, Thymus, Pineal Gland, Ovaries and Testes).

Unit-III

Brief anatomy of Digestive system, Histology of stomach, Liver, Gallbladder, pancreas, small intestine, large intestine, Urinary system — Anatomical and histological description of kidneys, structure of nephrons.

Unit-IV

Brief anatomy of Reproductive system - Brief anatomical description of male and female reproductive organs, Female Reproductive Cycle, Birth Control Methods and Abortion

Books Recommended

1. Drake, R., Vogl, W. and Mitchell, A. (2015). Gray's Anatomy for Students. Churchill Livingstone, USA.

2. Marieb, E.N. (2004). Human Anatomy and Physiology. Dorling Kindersley (India) Pvt.Ltd., 6thed.

3. Ross and Willson (2010). Anatomy and Physiology. ELBS Publication.

4. Standring, S. (2008). Gray's Anatomy. Churchill Livingstone, USA. 40th ed.

5. Tortora, G.J. and Grabowski, S.R. (2002). Principles of Anatomy and Physiology. Harper Collins College Publishers.

6. Tortora, G.J. and Henderson, S.R. (2012). Principles of Anatomy and Physiology. Harper Collins College Publishers.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Basics of Human Anatomy-II Lab
Course Code: BMLP- 2485
(PRACTICAL)

Course Outcomes

After passing this course the student will be able to:

CO1: Know and use of microscope

CO2: Calculate leukocyte count

CO3: Determine Differential leukocyte

CO4: Learn about osmotic fragility of RBC

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)
Course Title: Basics of Human Anatomy – II Lab
Course Code: BMLP- 2485
(PRACTICAL)

Credits: 0-0-2 **Total Marks: 50**

Time: 3 Hours **Theory: 35**

CA: 15

1. Classification of bones, Skull – different views
2. Sex differentiation in skull
3. Study of different types of Vertebrae, Sternum, Scapula
4. Bones of upper and lower limbs, Pectoral girdle, pelvic girdle, Clavicle, Ribs, sacrum

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester-II
(Session 2024-25)
COURSE CODE: BMLM - 2130
FUNDAMENTALS OF DATA ANALYTICS

Course Outcomes:

On Completion of this course, the student will be able to:

CO1: To understand the basic functionality of various parts of computer and terminologies related to computers and peripherals

CO2: To work with Word documents and apply various formatting techniques, page setup, creation of tables and other functions required in day-to-day word processing tasks.

CO3: To be able to make presentations, adding graphics, charts, audio, video and applying various themes and transition effects required for making an effective PowerPoint presentation.

CO4: Calculate Mean and Correlation using statistical techniques.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester-II
(Session 2024-25)
COURSE CODE: BMLM - 2130
FUNDAMENTALS OF DATA ANALYTICS

Examination Time: (3+3) Hours **Credits: 2-0-1**	**Max. Marks: 100** **Theory:40** **Practical: 30** **CA: 30**

Instructions for Paper Setter -

- Eight questions of equal marks (8 marks each) are to be set, two in each of the four Sections (A-D).
- Questions of Sections A-D should be set from Units I-IV of the syllabus respectively.
- Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

UNIT I

Computer Fundamentals: Hardware, Software, Memory, Storage devices, I/O Devices and Output Devices, Introduction to Internet and E-Mail.

Word Processing: Creating, Saving and Printing documents, Page setup, Formatting, Spell check, adding Page numbers, Header and Footer, Macros, Creating Tables, Converting table to text and vice versa.

UNIT II

Spreadsheets: Creating Spreadsheets, using different types of functions and Formulae, Cell referencing, create graphs, various types of charts. Pivot tables, vlookup, hlookup, exporting charts to MS – Word.

Create presentations, Formatting, Adding effects and timings.

UNIT III

Data Collection: Meaning, Primary and secondary sources of Data Collection, Sampling and Methods of Sampling.

Measures of Central Tendency: Mean, Median, Mode.

Correlation: Meaning, types of Correlation, Karl Pearson's method of correlation.

UNIT IV

Data Management: Correlation analysis using Excel, Calculation of Mean, Median and Mode using Excel

Data Visualisation Tools: Google Charts and Data Wrapper.

References / Textbooks:

1. Sinha P.K., "Computer Fundamentals", BPB Publications
2. Norton Peter, "Introduction to Computers", McGraw Hill Education
3. Rajaraman V (Author), Adabala N, "Fundamentals of Computers", Prentice Hall India Learning Private Limited
4. Peter Weverka, "Microsoft Office 2016 All-In-One for Dummies", Wiley
5. Amrinder Pal Singh, Jaspal Singh, Anshuman Sharma, Fundamentals Of Numerical Methods And Statistical Techniques, Lakhanpal Publishers, 4th edition.
6. Kandasamy P.& et AI., Numerical Methods, S. Chand & Company (2006), Reprint Edn. 2006 Edition.

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)

Course Title: Drug Abuse: Problem, Management and Prevention

Course code: VACD-2161

Course Outcomes

After completing the course the students will be able to:

CO1. Learn how to include factual data about what substance abuse is; warning signs of addiction; information about how alcohol and specific drugs affect the mind and body;

CO 2. Focus on substance abuse education- is teaching individuals about drug and alcohol abuse and how to avoid, stop, or get help for substance use disorders.

CO3. Learn how to be supportive during the detoxification and rehabilitation process

CO 4. Understand that substance abuse education is important for students alike; there are many misconceptions about commonly used legal and illegal substances, such as alcohol and marijuana

Bachelor of Science (Honours) (Medical Laboratory Technology) Semester–II
(Session 2024-25)

Course Title: Drug Abuse: Problem, Management and Prevention

Course code: VACD-2161

Time: 3Hrs | Max. Marks: 50

Credits: 2-0-0 | Theory:35

CA:15

Instructions for the Paper Setter:

a. Question paper shall consist of four Units
b. Examiner shall set 8 questions in all by selecting Two Questions of equal marks from each Unit.
c. Candidates shall attempt 5 questions in 500 words by at least selecting One Question from each Unit and the 5^{th} question may be attempted from any of the four Units.
d. Each question will carry 7 marks

UNIT-I

Meaning of Drug Abuse:

(i)Meaning, Nature, Types and Extent of Drug Abuse in India and Punjab.

(ii)Consequences of Drug Abuse for:

Individual: Education, Employment, Income.
Family: Violence.
Society: Crime, Social Disorganization

UNIT-II

MANAGEMENT OF DRUG ABUSE:

(i) Medical management: medication for treatment and to withdrawal effects.

(ii) Psychiatric Management: Counseling, Behavioral and Cognitive therapy.

UNIT-III

Prevention of Drug abuse:

(i) Role of family: Parent child relationship, Family support, Supervision, Shaping values, Active Scrutiny.

(ii) School: Counselling, Teacher as role-model. Parent-teacher-Health Professional Coordination, Random testing on students

UNIT-IV

Controlling Drug Abuse:

(i) Legislation: NDPs act, Statutory warnings, Policing of Borders, Checking Supply/Smuggling of Drugs, Strict enforcement of laws, Time bound trials

Suggested Readings:

1.Ahuja, Ram (2003), *Social Problems in India*, Rawat Publication, Jaipur.

2 Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India,2004.

3.Inciardi, J.A. 1981. *The Drug Crime Connection.*Beverly Hills: SagePublications.

4. Kapoor. T. (1985) *Drug epidemic among Indian Youth*, New Delhi: MittalPub.

5.Modi, Ishwar and Modi, Shalini (1997) *Drugs: Addiction and Prevention*, Jaipur: Rawat Publication.

6.National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences,2004.

7.Sain, Bhim 1991, *Drug Addiction Alcoholism*, Smoking obscenity New Delhi: Mittal Publications.

8.Sandhu, Ranvinder Singh, 2009, *Drug Addiction in Punjab*: A Sociological Study. Amritsar: Guru Nanak Dev University.

9.Singh, Chandra Paul 2000. *Alcohol and Dependence among Industrial Workers*: Delhi: Shipra.

10.Sussman, S and Ames, S.L. (2008). *Drug Abuse: Concepts, Prevention and Cessation,* Cambridge University Press.