

FACULTY OF SCIENCES

PSO, PO, CO

of

B. Sc. Medical

(Semester I-VI)

(Under Continuous Evaluation System)

Session: 2020-21



The Heritage Institution

KANYA MAHA VIDYALAYA

JALANDHAR

(Autonomous)

KanyaMahaVidyalaya, Jalandhar (Autonomous)
CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM
B. Sc. (Medical)
Session-2020-21

B.Sc (Medical) Semester I								
Course Code		Course Name	Course Type	Marks				Examination time (in Hours)
				Total	Ext.		CA	
					L	P		
BSML-1421 BSML-1031 BSML-1431		Punjabi (Compulsory) ¹ Basic Punjabi ² Punjab History & Culture (From Earliest Times to C320)	C	50	40	-	10	3
BSML-1212		English (Compulsory)	C	50	40	-	10	3
BSMM-1483	(I)	Zoology (Cell Biology)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Zoology (Biodiversity-I) (Protozoa to Annelida)						
	(P)	Zoology (PRACTICAL–I -Related To Cell Biology & Biodiversity-I)						
BSMM-1343	(I)	Microbiology (Fundamentals of Microbiology)	E	100	60	20	20	3+3
	(P)	Microbiology (PRACTICAL- Fundamentals of Microbiology)						
BSMM-1084	(I)	Chemistry (Inorganic Chemistry–I)	C	100	60 (30+30)	20	20	3+3+3½
	(II)	Chemistry (Organic Chemistry–II)						
	(P)	Chemistry (Practical)						
BSMM-1075	(I)	Botany (Diversity of Microbes)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Botany (Diversity of Cryptogams)						
	(P)	Botany (PRACTICAL–I –Related to Diversity of Microbes & Diversity of Cryptograms)						
BSMM-1255	(I)	Food Science and Quality Control (Vocational) (Food Chemistry and Nutrition)	E	100	60	20	20	3+3
	(P)	Food Science and Quality Control (Vocational) (PRACTICAL- Food Chemistry and Nutrition)						
AECD-1161		*Drug Abuse: Problem, Management and Prevention (Compulsory)	AC	50	40	-	10	3
SECF-1492		*Foundation Programme	AC	25	25	-	-	2

C-Compulsory

E-Elective

AC- Audit Course

¹Special paper in lieu of Punjabi (Compulsory).

² Special paper in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.

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Bachelor of Science (Medical) Semester – II								
Course Code		Course Name	Course Type	Marks				Examination time (in Hours)
				Total	Ext.		CA	
					L	P		
BSMM-2421 BSMM-2031 BSMM-2431		Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History & Culture	C	50	40	-	10	3
BSMM-2212		English (Compulsory)	C	50	40	-	10	3
BSMM-2483	(I)	Zoology (Ecology)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Zoology (Biodiversity –II)						
	(P)	Zoology (Practical-II- related to ecology and Biodiversity-II)						
BSMM-2343	(I)	Microbiology (Basic Food Microbiology)	E	100	60	20	20	3+3
	(P)	Microbiology (PRACTICAL- Related to Basic Food Microbiology)						
BSMM-2084	(I)	Chemistry (Inorganic Chemistry–I)	C	100	60	20	20	3+3+3½
	(II)	Chemistry (Physical Chemistry–II)						
	(P)	Chemistry (Practical)						
BSMM-2075	(I)	Botany (Cell Biology)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Botany (Genetics)						
	(P)	Botany (Practical-II- Related to Genetics and Cell Biology)						
BSMM-2255	(I)	Food Science and quality control (Vocational) (Food Plant Hygiene and Sanitation)	E	100	60	20	20	3+3
	(P)	Food Science and quality control (Vocational) (PRACTICAL- Related to Food Plant Hygiene and Sanitation)						
AECD-2161		*Drug Abuse: Problem Management and Prevention (Compulsory)	AC	50	40	-	10	3
SECM-2502		*Moral Education Programme	AC	25	20	-	5	2
Total								

C-Compulsory E-

Elective

AC- Audit Course

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KanyaMahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B. Sc. (Medical)

Session-2020-21

B.Sc (Medical) Semester III								
Course Code		Course Name	Course Type	Marks			Examination time (in Hours)	
				Total	Ext.			CA
					L	P		
BSML-3421 BSML-3031 BSML-3431		Punjabi (Compulsory) ¹ Basic Punjabi ² Punjab History & Culture (From 1000-1605 A. D.	C	50	40	-	10	3
BSML-3212		English (Compulsory)	C	50	40	-	10	3
BSMM-3483	(I)	Zoology (Evolution)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Zoology (Biodiversity –III) (Chordates)						
	(P)	Zoology (Practical-III- related to Evolution and Biodiversity-III)						
BSMM-3343	(I)	Microbiology (Microbial nutrition and Metabolism)	E	100	60	20	20	3+3
	(P)	Microbiology (Practical- Microbial nutrition and Metabolism)						
BSMM-3084	(I)	Chemistry (OrganicChemistry–I)	C	100	60 (30+30)	20	20	3+3+3½
	(II)	Chemistry (Physical Chemistry–II)						
	(P)	Chemistry (Practical)						
BSMM-3075	(I)	Botany (Structure Development and Reproduction in Flowering Plant-I)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Botany (Structure Development and Reproduction in Flowering Plant-II)						
	(P)	Botany (Practical-III -Related to Structure Development and Reproduction in Flowering Plant I & II)						
BSMM-3255	(I)	Food Science (Vocational) (Food Processing and Packaging)	E	100	60	20	20	3+3
	(P)	Food Science (Vocational) (Practical-Food Processing and Packaging)						
AECE-3221		*Environmental studies	AECC**	100	60	20	20	3
SECP-3512/ SECG-3531		*Personality Development Programme (Skill Based)/ Gender Sensitization Programme	AC	25	25	-	-	2

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E-Elective

AC- Audit Course

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** Ability enhancement compulsory course

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR

DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2020-21

Bachelor of Science (Medical)								
Semester-IV								
Course Code		Course Name	Course Type	Marks				Examination time (in Hours)
				Total	Ext.		CA	
					L	P		
BSML-4421 BSML-4031 BSML-4431		Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History & Culture (From 1605 to 1849 A.D.)	C	50	40	-	10	3
BSML-4212		English (Compulsory)	C	50	40	-	10	3
BSMM-4483	(I)	Zoology (Biochemistry)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Zoology (Animal Physiology)						
	(P)	Zoology (Practical IV- Biochemistry and animal physiology)						
BSMM-4343	(T)	Microbiology (Microbial Ecology)	E	100	60	20	20	3+3
	(P)	Microbiology (Practical – Microbial Ecology)						
BSMM-4084	(I)	Chemistry (Inorganic Chemistry–I)	C	100	60	20	20	3+3+3½
	(II)	Chemistry (Organic Chemistry–II)						
	(P)	Chemistry (Practical)						
BSMM-4075	(I)	Botany (Diversity of Seed Plants and their Systematics-I)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Botany (Diversity of Seed Plants and their Systematics-II)						
	(P)	Botany (Practical IV- Diversity of Seed Plants and their Systematics-I and II)						
BSMM-4255	(T)	Food Science and Quality Control (VOCATIONAL) (Quality Assurance)	E	100	60	20	20	3+3
	(P)	Food Science and Quality Control (VOCATIONAL) (Practical- Quality Assurance)						
SECS-4522		*Social Outreach	AC	Grade Only				10 hours per sem

C-Compulsory E-Elective

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

AC- Audit Course

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CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical) Session-2020-21

Bachelor of Science (Medical) Semester – V								
Course Code		Course Name	Course Type	Marks				Examination time (in Hours)
				Total	Ext.		CA	
					L	P		
BSMM-5421 BSMM-5031 BSMM-5431		Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History & Culture	C	50	40	-	10	3
BSMM-5212		English	C	50	40	-	10	3
BSMM-5483	(I)	Zoology (Development Biology)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Zoology (Genetics)						
	(P)	Zoology (Practical –V- related to development biology and genetics)						
BSMM-5343	(I)	Microbiology (Applied Microbiology-I)	E	100	60	20	20	3+3
	(P)	Microbiology (Practical – Related to Applied Microbiology-I)						
BSMM-5084	(I)	Chemistry (Inorganic Chemistry–I)	C	100	60	20	20	3+3+3½
	(II)	Chemistry (Physical Chemistry–II)						
	(P)	Chemistry (Practical)						
BSMM-5075	(I)	Botany (Plant Physiology)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Botany (Biochemistry &Biotechnology)						
	(P)	Botany (Practical-V-Related to Plant Physiology, Biochemistry & Biotechnology)						
	(I)	Food Science and quality control (Vocational) Food Analysis						

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

BSMM-5255	(P)	Food Science and quality control (Vocational) (Practical –Related to Food Analysis)	E	100	60	20	20	3+3
SECJ-5551		*Job Readiness course	AC	2credit	-	-	-	-
SECI-5541		*Innovation, Entrepreneurship and Venture Development	AC	2credit				
Total								

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

C-Compulsory

E-Elective

AC- Audit Course

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Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

Bachelor of Science (Medical)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Session-2021-22

Bachelor of Science (Medical) Session-2021-22

Bachelor of Science (Medical) Semester – VI								
Course Code		Course Name	Course Type	Marks				Examination time (in Hours)
				Total	Ext.		CA	
					L	P		
BSMM-6421 BSMM-6031 BSMM-6431		Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History & Culture	C	50	40	-	10	3
BSMM-6212		English	C	50	40	-	10	3
BSMM-6483	(I)	Zoology (Medical Zoology)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Zoology (Medical laboratory Technology)						
	(P)	Zoology (Practical –VI- related to Medical Zoology & Medical laboratory Technology)						
BSMM-6343	(I)	Microbiology (Applied Microbiology-II)	E	100	60	20	20	3+3
	(P)	Microbiology (Practical – Related to Applied Microbiology-II)						
BSMM-6084	(I)	Chemistry (Organic Chemistry–I)	C	100	60	20	20	3+3+3½
	(II)	Chemistry (Physical Chemistry–II)						
	(P)	Chemistry (Practical)						
BSMM-6075	(I)	Botany (Ecology)	E	100	60 (30+30)	20	20	3+3+3
	(II)	Botany (Economic Botany)						
	(P)	Botany (Practical-VI- Related to Ecology & Economic Botany)						
BSMM-6255	(I)	Food Science and quality control (Vocational) Food plant layout and management	E	100	60	20	20	3+3
	(P)	Food Science and quality control (Vocational) (Practical –Related to Food plant layout and management)						
Total								

C-Compulsory E-Elective

AC- Audit Course

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CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM
B. Sc. Medical (Zoology, Botany, Chemistry) Session 2020-21
Bachelor of Science (Medical)

Session-2021-22

Programme Specific Outcomes:

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

- PSO1.** Understand the nature and basic concepts of cell biology, Biochemistry, Taxonomy and ecology.
- PSO2.** Analyse the relationships among animals, plants and microbes
- PSO3.** Perform procedures as per laboratory standards in the areas of Biochemistry, Bioinformatics, Taxonomy, Economic Zoology and Ecology
- PSO4.** Understand the applications of biological sciences in Apiculture, Aquaculture, Agriculture and Medicine
- PSO5.** Understand the importance of plants , their diversity and its conservation.
- PSO6.** Understand contribution of botany in medicines , food, fibers and other plant products.
- PSO7.** Understand Health and Environmental Protection and to tackle pollution problems.
- PSO8.** Understand the importance of nature.
- PSO9.** Understand Experiments in Botany.
- PSO10.** Understand knowledge of Botany is an essential requirement for the pursuit of many applied sciences like Agriculture, Horticulture, Sericulture, Forestry, Biotechnology and many more.
- PSO11.** Demonstrate knowledge of organic, inorganic and physical chemistry and apply this knowledge to analyse a variety of chemical phenomena and will be able to interpret and analyse quantitative data.
- PSO12.** Understand theoretical concepts of instruments that are commonly used in most chemistry fields as well as interpret and use data generated in instrumental physical and chemical analyses.
- PSO13.** They will also be able to employ critical thinking and scientific inquiry in the performance, design, interpretation and documentation of laboratory experiments, at a level suitable to succeed at an entry-level position in industry or a chemistry postgraduate program.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B. Sc. (Medical)
Bachelor of Science (Medical)

Session-2021-22

Programme Outcomes:

Students of all undergraduate general degree Programmes at the time of graduation will be able to

- PO1. Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- PO2. 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.
- PO3: Work and communicate effectively in inter-disciplinary environment, either independently or in a team, and demonstrate leadership qualities. Elicit views of others, mediate disagreements and help reach conclusions in group settings.
- PO4. Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
- PO5. Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
- PO6. Understand the issues of environmental contexts and sustainable development.
- PO7. Recognize the need to engage in lifelong learning through continuing education and research.

COURSE OUTCOMES

CO1: d' ozr (eftsk Gkr) Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo eftsk gqsh fdbu;gh, ;{M Bz{ g?dk eoBk j? sK fe T[j nkX[fBe d"o ftu uZb ojhnK ekft XkokoT ns/ ethnK pko/ frnkB jkf;b eo ;eD.

CO2:fJ; dk j'o wB'oE eftsk dh ftnkfynk, ftPb/PD s/ w[bzeD dh gqfefonk s'A ikD{ eokT[Dk th j? sK fe T[j ;wekbh ;wki dhNk ;wZf;nktK Bz{ ;wM ;eD ns/ nkb'uBkswe fdqPNh pDk ;eD.

CO3;;z;ko dhNk gqf;X j;shnK ihtBh dh ftXk Bz{ f;b/p; ftu PkfwB eo e/ ftfdnkoEhnK nzdo ihtBh Bz{ gVQD dh o[uh Bz{ g?dk eoBk j? ns/ ihtBh irs Bkb i'VDk j?.

CO4:g?oQk ouBk ns/ g?oQk gVQ e/ gqPBK d/ T[so d/D dk wBo'E ftfdnkoEhnK dh p[ZXh B{z shyD eofdnK T[BK dh fbyD gqfsGk B{z T[iKro eoBk j?.

CO5:X[Bh ftT[As gVQD Bkb ftfdnkoEh X[BhnK dh T[ukoB gqDkbh s'A tke| j'Dr/.

Course outcomes

CO1: w[ZYbh gzikph gVQkT[D dk wB'oE ftfdnkoEhnK B{z gzikph GkPk B{z f;ykT[D dh gqfefonk ftu gk e/ fJe j'o GkPk f;ZyD d/ w"e/ gqdkB eoBk j?.

CO2: fJ; ftu ftfdnkoEh B{z pkohephBh Bkb GkPk dk nfXn?B eotkfJnk ikt/rk.

CO3: ftfdnkoEhnK B{z gzikph Ppd ouBk s'A ikD{ eotkfJnk ikt/rk.

CO4: w[ZYbh gzikph gVQkT[D dk wB'oE ftfdnkoEhnK B{z fBZs tos'A dh gzikph Ppdktbh pko/ dZ;Dk j?.

CO5: w[ZYbh gzikph gVQkT[D dk wB'oE ftfdnkoEhnK dk Ppd x/ok ftPkb eoBk j?.

CO6: ftfdnkoEhnK B{z gzikph ftu j|s/ d/ ;s fdBK d/ BK, pkoQK wjhfbnK d/ BK, oZ[sK d/ BK, fJe s'A ;" se frDsh PpdK ftu f;ykT[Dk j?.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B. Sc. Medical (Semester- I) (Session 2020-21)

Course Title: Punjab History & Culture (From Earliest Times to C. 320)

(Special Paper in Session 2021-22 compulsory)

Course Code: BSML-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 & writings of Ancient Indian History of Punjab.

CO 1: Identify and describe the emergence of earliest civilizations in: Indus Valley Civilization and Aryan Societies.

CO 2: Identify and analyses the Buddhist, Jain and Hindu faith in the Punjab

CO 3: Analyses the emergence of Early Aryans and Later Vedic Period, their Society, Culture, Polity and Economy

CO 4: To make students understand the concepts of two faiths Jainism and Buddhism, its principles and their application and relevance in present times

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester I) (Session 2020-21)

Course Title: ENGLISH (COMPULSORY)

Course Code: BSML-1212

COURSE OUTCOMES

After passing this course, the students will be able to:

- CO 1:** appreciate the writings of various Indian and foreign story and prose writers and relate them to their socio-cultural milieu
- CO 2:** comprehend the meaning of texts and answer questions related to situations, episodes, themes and characters depicted in them
- CO 3:** understand fundamental grammatical rules governing tenses, the use of modal verbs and make correct usage in their language
- CO 4:** develop an understanding of translation of written text from Hindi/Punjabi to English
- CO 5:** independently write paragraphs on any given topic

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Course Title: CELL BIOLOGY

Course Code: BSMM-1485 (1)

(THEORY)

Course Outcomes:

After passing this course the student will be able to:

CO1. Develop deeper understanding of what life is and how it functions at cellular level.

CO2. Describe cellular membrane structure and function, fine structure and function of cell organelles.

CO3. Perform a variety of molecular and cellular biology techniques.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session 2020-21)

Bachelor of Science (Medical)

ZOOLOGY
~~Session 2021-22~~

Course Title: BIODIVERSITY-I

(PROTOZOA TO ANNELIDA)

Course Code: BSMM-1483 (II)

(THEORY)

Course Outcomes:

After passing this course the student will be able to:

CO1. Familiarise with the non-chordate world that surrounds us.

CO2. Appreciate the process of evolution (unicellular cells to complex, multicellular organisms).

CO3. Identify the invertebrates and classify them up to the class level with the basis of systematic.

CO4. Understand the basis of life processes in the non-chordates and recognize the economically important invertebrate fauna.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session 2020-21)

Bachelor of Science (Medical)

Session-2021-22

Course Title: PRACTICAL-I (RELATED TO CELL BIOLOGY & BIODIVERSITY-I)

Course Code: BSMM-1483 (P)
(PRACTICAL)

Course Outcomes:

After passing this course the student will be able to:

- CO1. Familiarise with the Techniques like Paper Chromatography, Thin Layer Chromatography & Gel Electrophoresis.
- CO2. Familiarise with the TEM & SEM.
- CO3. Know about the Classification & Ecological note of Invertebrates.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session 2020-21)

Bachelor of Science (Medical)

MICROBIOLOGY

Session-2021-22

Course Title: Fundamentals of Microbiology

Course Code: BSMM-1343

(THEORY)

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand the history of microbiology and their characterization and identification.

CO2: Learn the different principles and applications of microscopy and methods of sterilization, preparation of a culture media, pure culture concept and different staining techniques of bacteria.

CO3: Understand the fine structure of bacterial cell and nutrition and nutritional requirements of microorganisms. Preparation of different types of media and control of microorganisms by physical and chemical agents.

CO4: Understand the Reproduction and Growth in Microorganisms and Epidemiology of common bacterial and viral diseases in humans.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session: 2020-21)

Bachelor of Science (Medical)

CHEMISTRY
Session-2021-22

COURSE TITLE: Inorganic Chemistry-I

COURSE CODE: BSMM -1084 (I)

(THEORY)

Course outcomes:

Students will be able to:

CO1: Predict electronic properties of atoms using current models and theories in chemistry.

CO2: Explains de-Broglie's dual behaviour of matter and Heisenberg's uncertainty principle and solve numerical problems

CO3: Explain the significance of quantum numbers

CO4: Sketch the probability density curves, boundary surface diagrams and shapes of s, p, d and f orbitals and write the electronic configuration of atoms.

CO5: Identify the periodic trends in physical and chemical properties of elements.

CO6: Describe VSEPR theory and predicts the geometry of simple molecules.

CO7:

Explain the valence bond approach for the formation of covalent bonds and the different types of hybridization involving s, p and d orbitals of simple covalent molecules

CO8: Describe the molecular orbital theory of homonuclear diatomic molecules.

CO9:

Explain the structures simple compounds.

CO10: Differentiate the types of van der Waals forces such as London forces, dipole – dipole interactions and dipole - induced dipole interactions and explain the concept of hydrogen bonding

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session: 2020-21)

Bachelor of Science (Medical)

CHEMISTRY
Session-2021-22

Course Title: Organic Chemistry-II

Course Code: BSMM -1084 (II)

(THEORY)

Course outcomes

Students will be able to:

CO1: Explain the bonding between different organic compounds

CO2: Explain the various reaction mechanisms and different electron displacement effects

CO3: Explain the various methods of formation and chemical reactions of alkanes, alkenes and alkynes

CO4: Compare the reactivities of various alkyl and aryl halide

CO5: Differentiate between aromatic, anti aromatic and non-aromatic compounds

CO6: Compare the stability of various cycloalkanes

CO7: Explain the effect of various substituents on the reactivity of aromatic compounds

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session: 2020-21)

Bachelor of Science (Medical)

CHEMISTRY

Course Title: Chemistry Practical

Course Code: BSMM -1084 (P)

(PRACTICAL)

Course outcomes

Students will be able to

CO1: separate and identify the various ions present in the mixture

CO2: accurately note down the melting and boiling point of organic compounds

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Course Title: DIVERSITY OF MICROBES

Course Code: BSMM-1075 (I)
(THEORY)

Bachelor of Science (Medical)

Session-2021-22

Course outcome: -

After passing this course the student will be able to:

CO1: Understand diversity in microscopic living organisms and their associations with other organisms.

CO2: Understand evolutionary history and time scale of non-vascular plants.

CO3: Develop basic knowledge about the variations in life cycle pattern of different organisms.

CO4: Interpret the structure and functional anatomy of plants belonging to the principal groups of living and fossil land plants.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session 2020-21)

Bachelor of Science (Medical)

BOTANY
Session-2021-22

Course Title: DIVERSITY OF CRYPTOGRAMS

Course Code: BSMM-1075 (II)

(THEORY)

Course Outcomes:

After passing this course student will be able to:

- CO1: Demonstrate knowledge of similarities and differences between vascular and nonvascular plants.
- CO2: Build up a sound foundation in the subject of Cryptogamic Botany in general and Bryophytes in particular so that the students may be able to apply the acquired knowledge while interacting into the other fields of Botany.
- CO3: Acquaint the students about the classification, morphology, biology and economic importance of various pteridophytic plants.
- CO4: recognize different plants and flora that come under cryptogams.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-I) (Session 2020-21)

Bachelor of Science (Medical)

BOTANY
Session-2021-22

**Course Title: Practical – Related to Diversity of Microbes &
Diversity of Cryptogams**

**Course Code: BSMM-1075 (P)
(PRACTICAL)**

Course Outcomes:

After passing this course student will be able to:

- CO 1: Ability to evaluate different sources of phylogenetic information (e.g. molecular sequence data, ultrastructure, morphology) for understanding algal, fungal.
- CO 2: Knowledge of the evolutionary history and time-scale of non-vascular plants, including the development of the first terrestrial plants from green algae.
- CO 3: Knowledge of the history and time-scale of land plant evolution, and evaluation of the principal types of evidence underlying.
- CO 4: Basic understanding of algal and fungal diversity (incl. morphology, cell structure and level of organization) to phylum level, and their association as lichens.

B.Sc Medical (Semester-I) (Session 2020-21)

FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Course Title: Food Chemistry and Nutrition

Course Code: BSMM-1255
Bachelor of Science (Medical)
Session-2021-22

(THEORY)

Course Outcomes: After passing this course the student will be able to:

- CO1:** Understand food, its functions, food groups, malnutrition and nutrient requirement for adult men and women as per ICMR.
- CO2:** Understand the chemistry underlying the properties of various food components.
- CO3:** Understand digestion, absorption, transport and utilization of nutrients in the body.
- CO4:** Learn about the nomenclature, definition, specificity, catalysis of enzyme, factors influencing enzyme activity and role of enzymes in food processing.
- CO5:** Understand the composition and nutritional significance of cereals, milk and milk products, egg, meat, fruits and vegetables.

B.Sc Medical (Semester-I) (Session 2020-21)

Course Title: DRUG ABUSE: Problem, Management and Prevention (COMPULSARY)

Course code: AECD-1161

(THEORY)

COURSE OUTCOMES:

- CO1.** This information can include factual data about what substance abuse is: warning signs of addiction;information about how alcohol and specific drugs affect the mind and body.
- CO2.** How to be supportive during the detoxification and rehabilitation process.
- CO3.** Main focus of substance abuse education is teaching individuals about drug and alcohol abuse and how to avoid,stop and get help for substance use disorder.
- CO4.** Substance abuse education is important for students alike;there are many misconceptions about commonly used legal and illegal substance,such as alcohol,marijuana etc.

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B. Sc Medical (Semester II) Session 2020-21
Bachelor of Science (Medical)

Course Title: ~~PUNJAB~~ ^{Session 2021-22} COMPULSORY

Course Code- BSML-2421

COURSE OUTCOMES

- CO1:d' ozr (ejkDh Gkr) Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo eftsk gqsh fdbu;gh, ;{M Bz{ g?dk eoBk j? sK fe T[j nkX[fBe d"o ftu uZb ojhnK ekft XkokoK ns/ ethnK pko/ frnkB jkf;b eo ;eD.
- CO2:fJ; dk j'o wB'oE eftsk dh ftnkfynk, ftPb/PD s/ w[bzeD dh gqfefonk s'A ikD{ eokT[Dk th j? sK fe T[j ;wekbh ;wki dhNk ;wZf;nktK Bz{ ;wM ;eD ns/ nkb'uBkswe fdqPNh pDk ;eD.
- CO3::z;ko dhNk gqf;X j;shnK ihtBh dh ftXk Bz{ f;b/p; ftu PkfwB eo e/ ftfdnkoEhnK nzdo ihtBh Bz{ gVQD dh o[uh Bz{ g?dk eoBk j? ns/ ihtBh irs Bkb i'VDk j?.
- CO4:Ppd pDso ns/ Ppd ouBk gVQD Bkb ftfdnkoEh fJ;d/ w[ZYb/ ;zebgK B{z nkXko pDk e/ fJjBK ;zebgK s'A ikD{ j'Dr/ .
- CO5:Ppd Pq/DhnK Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo gzikph GkPk dh nwhoh dk ns/ pkohehnK Bz{ ;wMD bJh tZyo/ - tZyo/ f;XKsK dk ftek; eoBk j?.
- CO6: w[jktfonK dh tos'A Bkb rZbpks ftu gogZesk nkT[Adh j?.fJj ftfdnkoEhnK dh rZbpks ftu fByko fbnkT[D dk ezW eoBr/.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Course Title: BASIC PUNJABI

Bachelor of Science (Medical)

In lieu of Punjab (Compulsory)

Session-2021-22

Course Code- BSML-2031

Course outcomes

- CO1:w[ZYbh gzikph gVQkT[D dk wB'oE ftfdnkoEhnK B{z gzikph GkPk B{z f;ykT[D dh gqfefonk ftu gk e/ fJe j'o GkPk f;ZyD d/ w"e/ gqdkB eoBk j?.
- CO2:fJ; ftu ftfdnkoEh B{z pkohephBh Bkb GkPk dk nfXn?B eotkfJnk ikt/rk.
- CO3:ftfdnkoEhnK B{z gzikph Ppd ouBk s'A ikD{ eotkfJnk ikt/rk.
- CO4:Ppd Pq/DhnK Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo gzikph GkPk dh nwhoh dk ns/ pkohehnK Bz{ ;wMD bJh tZyo/ - tZyo/ f;XKsK dk ftek; eoBk j?.
- CO5:w[ZYbh gzikph gVQkT[D dk wB'oE ftfdnkoEhnK dk Ppd x/ok ftPkb eoBk j?.
- CO6:ftfdnkoEh tke dh gfoGkPk ns/ fJ;dh pDso s'A ikD{ j'Dr/ ns/ GkPk s/ geV wip{s j't/rh.
- CO7:g?oQk ouBk dk wB'oE ftfdnkoEhnK dh p[ZXh B{z shyD eofdnK T[BK dh fbyD gqfsGk B{z T[i kro eoBk j?.
- CO8: ;zy/g ouBk eoB Bkb ftfdnkoEh nkgDh rZb B{z ;zy/g ftu efjD dh iku f;ZyDr/ ns/ fJj fdwkrh e;os ftu ;jkJh j't/rh.
- CO9:xo/b{ ns/ d|soh fuZmh gZso fbyD dk wB'oE ftfdnkoEhnK B{z fJ; ebk ftu fBg[zB eoBk j?.
- CO10: w[jktfonK dh tos'A Bkb rZbpks ftu gogZesk nkT[Adh j?.fJj ftfdnkoEhnK dh rZbpks ftu fByko fbnkT[D dk ezW eoBr/.

B. Sc Medical (Semester II) Session 2020-21

Course Title: Punjab History and Culture (C. 320 to 1000 B.C.)

(Special paper in lieu of Punjabi Compulsory)

(For those students who are not domicile of Punjab)

Course Code- BSML-2431

COURSE OUTCOMES

After completing Semester II and course on Ancient History of Punjab, students of History will be able to identify and have a complete grasp on the sources & writings of Ancient History of Punjab

- CO 1: Analyse the emergence of Mauryan, Gupta empires during the classical age in India
- CO 2: To understand the various factors leading to rise and fall of empires and emergence of new dynasties and their Culture, society, administration, polity and religion specifically of Kushans and Vardhanas in the Punjab
- CO 3: Students will be adept in constructing original historical argument based on primary source material research
- CO 4: To have an insight on the existing Literature of this period and understand the past developments in the light of present scenario.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

➤ CO 5: To enable students to have thorough insight into the various forms/styles of Architecture and synthesis of Indo - Muslim Art and Architecture in Punjab **Bachelor of Science (Medical)**

Session-2021-22

B. Sc Medical (Semester II) Session 2020-21

Course Title: English Compulsory

Course Code- BSML-2212

COURSE OUTCOMES

After passing this course, the students will be able to:

- **CO 1:** appreciate the writings of various Indian and foreign story and prose writers and relate them to their socio-cultural milieu
- **CO 2:** comprehend the meaning of texts and answer questions related to situations, episodes, themes and characters depicted in them
- **CO 3:** change the narration and voice of sentences after understanding fundamental grammatical rules governing them
- **CO 4:** enrich their vocabulary and use new words in their spoken and written language
- **CO 5:** independently write personal letters to their family and friends on various issues

Bachelor of Science (Medical) Semester–II

Session 2020-21

ZOOLOGY

Course Title: ECOLOGY

Course Code: BSMM-2483 (I)(THEORY)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Course Outcomes

Bachelor of Science (Medical)

After passing this course the student will be able to: **Session-2021-22**

- CO1. Construct the food web.
- CO2. Familiarise with ecological adaptations.
- CO3. Know about the characteristics of population & biotic community.
- CO4. Know about the conservation of resources.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

Bachelor of Science (Medical) Semester–II

Session 2020-21

ZOOLOGY

Course Title: BIODIVERSITY-II

Course Code: BSMM-2483 (II) (THEORY)

Course Outcomes:

After passing this course the student will be able to:

- CO1. Familiarize with the non-chordate world that surrounds us.
- CO2. Appreciate the process of evolution (unicellular cells to complex, multicellular organisms).
- CO3. Identify the invertebrates and classify them up to the class level with the basis of systematic.
- CO4. Understand the basis of life processes in the non-chordates and recognize the economically important invertebrate fauna.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical) Semester-I

Session-2020-21

Session-2021-22

ZOOLOGY

Course Title: PRACTICAL-II (Related to Ecology and Biodiversity-II)

Course Code: BSMM-2483 (P)

(PRACTICAL)

Course Outcomes:

After passing this course the student will be able to:

- CO1. Know about the morphological, physiological & behavioural adaptations of different animals in different habitats
- CO2. Familiarise with the classification & ecology of invertebrates
- CO3. Identify different zoogeographical realms with fauna.
- CO4. Know about the different nest of birds.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Bachelor of Science (Medical) Semester-II

Session 2020-21

MICROBIOLOGY

Course Title: BASIC FOOD MICROBIOLOGY

**Course Code: BSMM-2343 (I)
(THEORY)**

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand the intrinsic and extrinsic factors affecting the growth of various microorganisms in foods and microorganisms important in food microbiology.

CO2: Learn about the origin and preparation of fermented foods (bread, dosa, idli, warri, tempeh, miso).

CO3: Understand the Principles of food preservation and various methods of preservation (high temperature, low temperature, drying, chemical preservatives) and applications of prebiotics and probiotics.

CO4: Understand the spoilage of food (milk and milk products, cereal and cereal products, vegetable and fruits, meat and meat products, canned foods) and food poisoning and infection.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)
Bachelor of Science (Medical) Semester-II
Session-2021-22
Session 2020-21

CHEMISTRY

Course Title: INORGANIC CHEMISTRY – I

Course Code: BSMM-2084 (I)

(THEORY)

Course outcomes

Students will be able to:

CO1: Explain the atomic, physical and chemical properties of alkali metals and alkaline earth metals

CO2: Recognise the anomalous properties of Li and compares the properties Li with those other alkali metals CO3:

Recognises the anomalous properties of Be and compares the properties of Be with those other alkaline earth metals

CO4: Explains the trends in atomic and physical properties of group 13, 14, 15, 16, 17 elements explains chemical properties of above group elements

CO5: Describe allotropic forms of elements

CO6: Exhaustive understanding of d-block elements belonging to 4th, 5th and 6th period.

CO7: Understand the simple concepts of pH and complete and balance simple acid-base reactions.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical) Semester-II

Bachelor of Science (Medical)

Session 2020-21

SEMESTER-II

Course Title: PHYSICAL CHEMISTRY – II

Course Code: BSMM-2084 (II)

(THEORY)

Course outcomes:

Students will be able to

CO1: Acquire the knowledge of structure and intermolecular forces present between solids, liquids and gases.CO2:

Demonstrate an understanding of basic principles of colligative properties

CO3: Understand the basic concepts of colloidal state of matter and applications of colloids

.CO4: Explain various gaseous laws and their applications..

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

Bachelor of Science (Medical) Semester–II

Session 2020-21

CHEMISTRY

Course Title: CHEMISTRY (PRACTICAL)

Course Code: BSMM-2084 (P)
(PRACTICAL)

Course outcomes:

Students will be able to

CO1: Understand the technique of crystallisation

CO2: Compare the viscosity and surface tension of different liquids and solutions

CO3: Determine the rate of the reactions

CO4: Efficiently use of calorimeter in various experiments

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical) Semester–II

Bachelor of Science (Medical)

Session-2021-22

BCP/ANV

Course Title: CELL BIOLOGY

Course Code: BSMM-2075 (I)

(THEORY)

Course outcomes:

After passing this course the student will be able to:-

CO1: Explain cellular processes and mechanisms that lead to physiological functions as well as examples of pathological state.

CO2: Describe the intricate relationship between various cellular structures and their corresponding functions.

CO3: Describe cytological, biochemical, physiological and genetic aspects of the cell, including cellular processes common to all cells, to all eukaryotic cells as well as processes in certain specialized cells.

CO4: Relate normal cellular structures to their functions.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SYLLABUS OF BACHELOR OF SCIENCE (MEDICAL) DEGREE PROGRAM

Session 2020-21

Bachelor of Science (Medical)

Course Title: GENETICS

Course Code: BSMM-2075 (II)

(THEORY)

Course outcomes:

After passing this course the student will be able for:-

CO1: Comprehensive, detailed understanding of the chemical basis of heredity

CO2: Comprehensive and detailed understanding of genetic methodology and how quantification of heritable traits in families and populations provides insight into cellular and molecular mechanisms.

CO3: Understanding of how genetic concepts affect broad societal issues including health and disease, food and natural resources, environmental sustainability, etc.

CO4: Understanding the role of genetic mechanisms in evolution. The knowledge required to design, execute, and analyze the results of genetic experimentation in animal and plant model systems.

CO5: The ability to evaluate conclusions that are based on genetic data. Insight into the mathematical, statistical, and computational basis of genetic analyses that use genome-scale data sets in systems biology settings.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

Bachelor of Science (Medical) Semester–II

Session 2020-21

BOTANY

Course Title: PRACTICAL – II (Related to Genetics and Cell Biology)

Course Code: BSMM-2075 (P)

(PRACTICAL)

Course outcomes:

After passing this course the student will develop:

CO1: A critical awareness of how genetics techniques can be applied to biological problems.

CO2: A critical awareness of current thinking in a specialist area of cell biology and genetics.

CO3: the ability to evaluate methodologies in the design of experimental procedures.

CO4: The ability to critically evaluate experimental data.

CO5: The ability to synthesize hypotheses from a wide range of information sources.

CO6: The ability to design and implement a wide range of experimental procedures.

CO7: to be able to make sound judgments on the significance of incomplete data sets.

CO8: Demonstration of independence and originality in solving problems.

CO9: The ability to exercise initiative and personal responsibility.

CO10: The development of independent learning skills required for continuing professional development.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical) Semester–II

Bachelor of Science (Medical)

Session 2020-21

Session-2021-22

FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

Course Title: FOOD PLANT HYGIENE AND SANITATION

Course Code: BSMM-2255 (I)

(THEORY)

Course Outcomes: After passing this course the student will be able to:

- **CO1:** Understand hygiene, sanitation and importance of personal hygiene of food handler in food industries.
- **CO2:** Learn various methods, basic principles and practices of cleaning and sanitation in food processing industries.
- **CO3:** Understand requirements of waste management, waste disposal and treatment in food industries
- **CO4:** Understand requirements of water utilization and hygiene of water used for processing.
- **CO4.** Develop an interest in the debates and discussions taking place in the field of evolutionary biology.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM
B.Sc. Medical (Semester-III) (Session 2020-21)

Bachelor of Science (Medical)
Course Title: **Punjabi (Compulsory)**
Session-2021-22

Course Code- BSML -3421

COURSE OUTCOMES

CO1: u'Dt/ gzikph fBpzX Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo

□□□□gqshfdbu;gh, ;{M

Bz{ g?dk eoBk j?.

CO2: `;wK wzr eodk j?' fJeKrh ;zrqfj Bz{ f;b/p; ftu PkfwB eo e/
ftfdnkoEhnK nzdo

fJeKrh gVQD dh o[uh Bz{ g?dk eoBk j? ns/ fJ; ;kfjs o{g Bkb Bkb
i'VDk j?.

CO3: ;zy/g ouBk eoB Bkb ftfdnkoEh nkgDh rZb B{z ;zy/g ftu efjD dh
iku f;ZyDr/ ns/
fJj fdwkrh e;os ftu ;jkJh j't/rh.

CO4: b/y ouBk dk wB'oE ftfdnkoEhnK dh p[ZXh B{z shyD eofdnK T[BK
dh fbyD gqfsGk B{z
T[i kro eoBk j?.

CO5: w{b ftnkeoDe fJekJhnK L gfoGkPk ns/ tzBrhnK (GktzP, Ppd,
tkezP, T[gtke ns/
tke) Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo GkPk dh nwhoh ns/
pkohehnK Bz{ ;wMD
bJh tZyo/ - tZyo/ f;XKsK dk ftek; eoBk j?.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM
B. Sc. Medical (Semester- III) (Session 2020-21)

Bachelor of Science (Medical)
w[ZYbh gzikph
Session-2021-22

(In lieu of Compulsory Punjabi)
Course Code- BSML- 3031

Course outcomes

CO1: ivAwkrxk iekweIAW Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo gzikph
GkPk dh nwhoh dk ns/
pkohehnK Bz{ ;wMD bJh tZyo/ - tZyo/ f;XKsK dk ftek; eoBk ns/
gzikph GkPk B{z f;ykT[D dh
ggfefonk ftu gk e/ fJe j'o GkPk f;ZyD d/ w"e/ gqdkB eoBk j?.

CO2: g?oQk ouBk d/D dk wB'oE ftfdnkoEhnK dh p[ZXh B{z shyD eofdnK T[BQK dh
fbyD gqfsGk B{z
T[ikro eoBk j?.

CO3: xo/b{ ns/ d|soh fuZmh gZso fbyD dk wB'oE ftfdnkoEhnK B{z fJ; ebk ftu
fBg[zB eoBk j? I

CO4: nykD ns/ w[jktfonK dh tos'A Bkb rZbpks ftu gogZesk nkT[Adh j?.fJj
ftfdnkoEhnK dh
rZbpks ftu fByko fbnkT[D dk ezW eoBr/.

CO5: g?oQk gVQ e/ gqPBK d/ TZ[so d/D dk wB'oE ftfdnkoEhnK dh p[ZXh B{z
shyD eofdnK T[BK dh
fbyD gqfsGk B{z T[ikro eoBk j?.

CO6: ;zy/g ouBk eoB Bkb ftfdnkoEh nkgDh rZb B{z ;zy/g ftu efjD dh iku
f;ZyDr/ ns/ fJj
fdwkrh e;os ftu ;jkJh j't/rh.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME (M.C.E.A.) (BATCH 16-17) (Session 2020-21) PROGRAM

Course Title: Punjab History & Culture (From 1000 -1605 A.D.)
Bachelor of Science (Medical)

(Special paper in lieu of Punjabi Compulsory)

(For those students who are not domicile of Punjab)

Course code: BSML-3431

After completing the paper the students will have a thorough insight into the origin of Sikh faith and its major institutions in Punjab

CO 1: To able to construct original historical arguments using a blend of primary and secondary source material

CO 2: To be able to demonstrate the significance of historical topics with reference to broader historical context and their contemporary relevance

CO 3: Students will develop an ability to convey verbally their historical knowledge

CO 4: students will develop skills in critical thinking and reading

CO 5: To discuss understand and evaluate causes and results of the conflict with Mughals

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. (Medical) (Semester III) (Session 2020-21)
Bachelor of Science (Medical)

Course Title: ENGLISH (COMPULSORY)

Course Code: BSML-3212

COURSE OUTCOMES

At the end of this course, the students will be able to:

- CO 1:** Develop an understanding of the poems taught, relate to the socio-cultural background of England and be able to answer questions regarding situations, themes and characters depicted in them
- CO 2:** Comprehend the basics of grammatical rules governing adjectives and adverbs, conjunctions and prepositions and phrasal verbs
- CO 3:** Enhance their reading and analysing power of texts through guided reading
- CO 4:** Enrich their vocabulary and use new words in their spoken and written language
- CO 5:** Develop skills to write an essay on a given topic

Kanya MahaVidyalaya, Jalandhar (Autonomous)

**CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM
B.Sc. (Medical) (Semester–III) (Session 2020-21)**

**ZOOLOGY
Bachelor of Science (Medical)**

Session-2021-22

Course Title: EVOLUTION

**Course Code: BSMM-3483 (I)
(THEORY)**

Course Outcome

Course code: BSMM- 3483 (I): Evolution

- CO1. Familiar with ecological adaptations.
- CO2. Identify the contributions of various Evolutionists.
- CO3. Understanding the process and theories in evolutionary biology.
- CO4. Develop an interest in the debates and discussions taking place in the field of evolutionary biology.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. (Medical) (Semester–III) (Session 2020-21)
Bachelor of Science (Medical)

ZOOLOGY

Course Title: Biodiversity-III
Course Code: BSMM-3483 (II)
(THEORY)

Course Outcomes

CO1. Describe the diversity in form, structure and habits of vertebrates.

CO2. Explain general characteristics and classification of different classes of vertebrates.

CO3. Positive attitude towards Biodiversity Conservation.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. (Medical) (Semester-III) (Session 2020-21)
Bachelor of Science (Medical)

Course Title: Practical-III (Related to Evolution and Biodiversity-III)
Course code: BSMM-3483(P)

Course Outcomes

CO1. Familiarize organ systems.

CO2. Aware about economically important specimens(preserved).

CO3. Understanding of evolutionary phenomena.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. (Medical) (Semester-III) (Session 2020-21)

Bachelor of Science (Medical)

MICROBIOLOGY

Course Title: Microbial Nutrition and Metabolism

Course Code: BSMM-3343

(THEORY)

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand the nutrition and requirements for growth of microorganisms, medium designing and types of microorganisms on the basis of nutrition.

CO2: Understand the transport of nutrients across the cell membrane.

CO3: Learn about the laws of thermodynamics and electron transport chain of bacteria. Also understand the growth and metabolic pathways for breakdown of glucose (glycolysis, Kreb's cycle fermentation, pentose phosphate pathways) and gluconeogenesis.

CO4: Learn about the enzymes, kinetics and biosynthesis of nucleic acids.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. (Medical) (Semester-III) (Session 2020-21)

Bachelor of Science (Medical)

Session-2021-22
Chemistry

Course Title: Organic Chemistry-I

Course Code: BSMM -3084 (I)

(THEORY)

Course outcomes:

Students will be able to

CO1: To resolve the different enantiomers and differentiate between dextrorotatory and leavorotatory compounds

CO2: Understand the concept of isomerism

CO3: Differentiate between chiral and achiral compounds, configuration and conformation

CO4: Understand the concept of axial and equatorial bonds and draw the various projection formulae

CO5: Understand the methods of formation, chemical reactions, acidic character of alcohols

CO6: Understand structure and bonding, preparation of phenols, acidic character of phenols

CO7: Understand structure and bonding in phenols and carbonyl compounds

CO8: Compare reactivity of aliphatic and aromatic aldehydes and ketones

CO9: Understand the various reactions given by carbonyl compounds

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. (Medical) (Semester-III) (Session 2020-21)

Bachelor of Science (Medical)

Session-2021-22
Chemistry

Course Title: Physical Chemistry-II

Course Code: BSMM -3084 (II)

(THEORY)

Course outcomes:

Students will be able to

CO1: Understand and evaluate thermodynamic property of any system and its applications to various systems.

CO2: Acquire the knowledge of phase equilibria of various systems.

CO3: Understand completely miscible, partially miscible and immiscible liquids.

CO4: Understand concept of spontaneity of a reaction in terms of free energy change.

CO5: Demonstrate Vant' Hoff equation and relationship between equilibrium constants.

CO6: Demonstrate Clausius-Clapeyron equation.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. (Medical) (Semester-III) (Session 2020-21)

Bachelor of Science (Medical)

Session-2021-22
Chemistry

Course Title: Chemistry Practical

Course Code: BSMM -3084 (P)

(PRACTICAL)

Course outcomes:

Students will be able to

CO1: Understand and master the technique of volumetric analysis

CO2: To understand and analyze an acidic & alkali content in different samples.

CO3: To understand and analyze the calcium content in various samples
permanganometrically

CO4: To understand the concept of hardness of water and its analysis by EDTA method

CO5: Understand and master the technique of gravimetric analysis

CO6: To understand the concept of TLC and its applications

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-III) (Session 2020-21)

Bachelor of Science (Medical)

BOTANY

Course Title: Structure, Development and Reproduction in Flowering Plants-I

Course Code: BSMM-3075 (I)
(THEORY)

Course outcome: -

After passing this course the student will develop:

CO1: Understanding of basic body plan of a flowering plant, Diversity in plant form branching pattern and canopy architecture trees.

CO2: Understanding of shoot apical meristem and its histological organization. Cambium and its function and formation of secondary xylem.

CO3: Understanding of wood in relation to water and minerals, growth rings and structure of secondary phloem and periderm.

CO4: Understanding of origin, development, arrangement and diversity in size and shape of leaf, internal structure in relation to photosynthesis and water loss, senescence and abscission.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-III) (Session 2020-21)BOTANY

Bachelor of Science (Medical)

Course Title: Structure, Development and Reproduction in Flowering Plants-II Course Code:

BSMM-3075 (II)

(THEORY)

Course outcome: -

After passing this course the student will be able to:

CO1: Recognize the major groups of vascular plants and their phylogenetic relationships.

CO2: Know the structure and development of monocot and dicot embryos.

CO3: Understand different means of vegetative reproduction.

CO4: Understand physiology of seed germination.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-III) (Session 2020-21)

Bachelor of Science (Medical)

BOTANY

Session-2021-22

Course Title: Practical – Structure, Development and Reproduction in Flowering Plants(I & II)

Course Code: BSMM-3075 (P)

Course outcome:

After passing this course the student will be able to:

CO1: Develop knowledge about the role of herbarium techniques in plant identification.

CO2: Understand different life forms exhibited by flowering plants.

CO3: Understand anatomy of different plant parts using free hand razor technique.

CO4: Examine flower and their mode of pollination.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc Medical (Semester III) (Session 2020-21)

FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)
Bachelor of Science (Medical)
Session-2021-22

Course Title: Food Processing and Packaging

Course Code: BSMM-3255 (I)

(THEORY)

Course Outcomes: After passing this course the student will be able to:

CO1: Understand the reasons of spoilage and basic principles of food preservation methods.

CO2: Understand packaging materials, characteristics and machinery used for packaging food.

CO3: Understand processing of fats, oils, sugar, salt, tea, coffee, chocolate and cocoa powder, spices and flavor and extruded foods.

CO4: Learn manufacturing of fermented products: wine, vinegar, beer, fermented milks, yoghurt, etc.

CO5: Understand techniques that can be used to monitor quality of rawmaterials, manufacturing process and testing of the finished products.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B.Sc. Medical (Semester-III) (Session 2020-21)

Course Title: Environmental Studies (Compulsory)

**Course Code: AECE-3221
(THEORY)**

COURSE OUTCOMES:

After passing this course the student will be able to:

- CO1: Demonstrate and Understand the ecological relationships between organisms and their environment.
- CO2: Present an overview of diversity of life forms in an ecosystem.
- CO3: Explain and identify the role of the organism in energy transfers.
- CO4: Understand the Environmental Pollution and their management.
- CO5: Understanding and awareness for wildlife conservation.
- CO6: Knowledge of conservation of threatened animal species

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Course Title: **PERSONALITY DEVELOPMENT PROGRAMME**
Bachelor of Science (Medical)

Session-2021-22
Course code: SECP-3512

PURPOSE

To enhance holistic development of students and improve their employability skills.

INSTRUCTIONAL OBJECTIVES

- To re-engineer attitude and understand its influence on behaviour.
- To develop inter-personal skills and be an effective goal-oriented team player.
- To develop communication and problem-solving skills.
- To develop professionals with idealistic, practical and moral values.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

B. Sc. Medical (Semester- III) (Session 2020-21)
Bachelor of Science (Medical)

Session-2021-22

Course Title: Gender Sensitization Programme

Course Code: SECG- 3531

(Theory)

The program has been designed to inculcate value of gender equality among students so that they can identify the areas of gender discrimination and raise their voice against gender discrimination and work towards making the society gender neutral.

INSTRUCTIONAL OBJECTIVES:

1. To sensitize students about gender rights, gender roles and relations.
2. To make students aware and capable of realizing their true potential.
3. To ensure equal participation of men and women in all economic, social and political processes.
4. To develop gender prospective to transform the mind set of society.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)
Bachelor of Science (Medical) (Semester IV)
Session-2021-22
Session 2020-21

Course Title: PUNJABI (COMPULSORY)

Course Code- BSML-4421

COURSE OUTCOMES:

C01: 'grvzvhnK' (□□□□□□□) Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo □□□□□□□ fJ; ;kfjs o{g gqshfdbu;gh, ;{M Bz{ g?dk eoBk j?.

C02: '□□□□□' (□□□□) Bz{ f;b/p; ftu PkfwB eo e/ ftfdnkoEhnK nzdo □□□□ Bz{ gVQD dh o[uh Bz{ g?dk eoBk j? ns/ □□□□ irs Bkb i'VDk j?.

C03: d|soh fuZmh gZso fbyD dk wB'oE ftfdnkoEhnK B{z fJ; ebk ftu fBg[zB eoBk j? I

C04: Ppd i'VK d/ fB:w B{z f;b/p; ftu PkfwB eoB dk we;d ftfdnkoEhnK d[nkok fb\s ftu ehshnK ikD tkbhnK rbshnK B{z ;[XkoBk j?.

C05: r[ow[yh fbgh dhNk ftP/PsktK Bz{ gVQkT[D dk wB'oE ftfdnkoEhnK nzdo gzikph GkPk dh nwhoh dk ns/ pkohehnK Bz{ ;wMD bJh tZyo/ - tZyo/ f;XKsK dk ftek; eoBk j?.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)
Bachelor of Science (Medical) (Semester IV)
Session-2021-22
Session-2020-21

Course Title: BASIC PUNJABI

IN LIEU OF PUNJABI (COMPULSORY)

Course Code: BSML-4031

COURSE OUTCOMES:

CO1: 'wzu xo' fJeKrh Bz{ f;b/p; ftu PkfwB eo e/ ftfdnkoEhnK nzdo fJekrh
Bz{ gVQD dh o[uh Bz{ g?dk eoBk j? ns/ fJeKrh irs Bkb i'VDk j?.

CO2: nYiqk is`iKAw nwl sMbMDq khwxIAW pVHwauX dw mnorQ ivedAwRQIAW dI
bu`DI nUM qIKx kridAW aunHW iv`c smwjk smJ
aujwgr krnw hY[

CO3: ieSiqhwr ilKx dw mnorQ ivedAwRQIAW nUM ies klw iv`c inpuMn krnw hY[

CO4: ivAwkrn pVHwauX dw mnorQ ivedAwRQIAW AMdr pMjwbI BwSw dI AmIrI dw
Aqy bwrIkIAW nUM smJx leI v`Kry-v`Kry
isDwqW dw ivkws krnw Aqy pMjwbI BwSw nUM isKwauX dI pRikirAw iv`c pw
ky ie`k hor BwSw is`Kx dy mOkY pRdwn krnw hY[

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical) (Semester IV)

Bachelor of Science (Medical)

Session 2020-21

Session-2021-22

Course Title: PUNJAB HISTORY & CULTURE (From 1605 to 1849 A.D.)

(Special paper in lieu of Punjabi Compulsory)

(For those students who are not domicile of Punjab)

Course Code- BSML-4431

COURSE OUTCOMES:

After completing the paper the students will have a thorough insight into the origin of Sikh faith and its major institutions in Punjab.

CO 1: To able to construct original historical arguments using a blend of primary and secondary source material.

CO 2: To be able to demonstrate the significance of historical topics with reference to broader historical context and their contemporary relevance.

CO 3: Students will develop an ability to convey verbally their historical knowledge.

CO 4: Students will develop skills in critical thinking and reading.

CO 5: To discuss understand and evaluate causes and results of the conflict with Mughals.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

**Bachelor of Science (Medical)
Bachelor of Science (Medical) (Semester IV)
Session-2021-22
Session 2020-21**

ENGLISH

Course Title: ENGLISH (COMPULSORY)

Course Code- BSML-4212

COURSE OUTCOMES:

After passing this course, the students will be able to:

- CO 1:** develop an understanding of the poems taught and be able to answer questions regarding situations, themes and characters depicted in them
- CO 2:** comprehend the basics of grammatical rules governing prepositions and phrasal verbs
- CO 3:** enhance their reading and analysing power of texts through guided reading
- CO 4:** enrich their vocabulary and use newly learnt words in both spoken and written language
- CO 5:** develop skills to write an essay on a given topic

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)
Bachelor of Science (Medical) (Semester IV) Session 2020-21
Session 2021-22

ZOOLOGY

Course Title: BIOCHEMISTRY Course Code- BSMM-4483 (I)

(THEORY)

COURSE OUTCOMES:

- CO-1.** Familiar with various biochemical pathways.
- CO-2.** Understand the chemical nature of life and life process.
- CO-3.** Get an idea on structure and functioning of biologically important molecules.
- CO-4.** Help to explore new developments in biochemistry.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22

Bachelor of Science (Medical) (Semester IV) Session 2020-21

ZOOLOGY

Course Title: ANIMAL PHYSIOLOGY

Course Code- BSMM-4483 (II)

(THEORY)

COURSE OUTCOMES:

CO1. Understand the functioning of various systems.

CO2. Apply the knowledge to lead a healthy life.

CO3. Familiarize with various biochemical pathways.

CO4. Compare the functioning of organ systems across the animal world.

CO5. Learn more about human physiology and anatomy.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Bachelor of Science (Medical) (Semester IV) Session 2020-21

ZOOLOGY

Course Title: PRACTICAL IV- BIOCHEMISTRY AND ANIMAL PHYSIOLOGY

Course Code- BSMM-4483 (P)

(PRACTICAL)

COURSE OUTCOMES:

CO-1. Learn clinical procedures for blood & urine analysis.

CO-2. Develop skill in simple biochemical laboratory procedures.

CO-3. Skill in observing and to some extent in analysing various Biological Data.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Bachelor of Science (Medical) (Semester IV) Session 2020-21

Microbiology

Course Title: MICROBIAL ECOLOGY

Course Code- BSMM-4343 (T)

(THEORY)

COURSE OUTCOMES:

After passing this course the student will be able to:

CO1: Understand the Diversity of various microbial habitats.

CO2: Understand the various microbial interactions and competition for survival in nature (for nutrients, space and oxygen).

CO3: Understand the role of microorganisms in geochemicals cycles, concept of microbial toxins, biofertilizers and bioinsecticides.

CO4: Understand the microbiological aspects of pollution and concept of BOD and COD, effluent treatment, bioremediation and bioleaching.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22
Bachelor of Science (Medical) (Semester IV)
Session 2020-21

CHEMISTRY

Course Title: INORGANIC CHEMISTRY-(I)

Course Code- BSMM-4084 (I)(THEORY)

COURSE OUTCOMES:

Students will be able to

CO1: Understand the key features of coordination compounds viz. variety of structures, oxidation numbers and electronic configurations, coordination numbers and explain the bonding and stability of complexes

CO2: Understand the magnetic properties of coordination compounds by using CFT.

CO3: Describe the shapes and structures of coordination complexes with coordination numbers ranging from 4 to 12.

CO4: Do nomenclature of coordination compounds.

CO5: Write both reduction and oxidation half reactions for a simple redox reaction

CO6: Identify the oxidation number (charge) on a neutral metal, metal and non-metal ion

CO7: Carry out the common applications of the activity series of metals

CO8: Understand the Latimer, Frost and Pourbaix diagram.

CO9: Understand the positions, electronic configurations, relative stability, preparation, properties, structures and characteristics of the f-block elements in the periodic table;

CO10: Understand the role of metal ions and other inorganic elements in biological systems.

CO11: Understand the properties and reactions of non-aqueous solvents.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22
Bachelor of Science (Medical) (Semester IV)
Session 2020-21

CHEMISTRY

Course Title: ORGANIC CHEMISTRY-(II)

Course Code- BSMM-4084 (II)(THEORY)

COURSE OUTCOMES:

Students will be able to

CO1: understand structure and bonding in carboxylic acids and carboxylic acid derivatives

CO2: Compare the acidity of alcohols, phenols and acids

CO3: understand the effect of various substituents on the acidity of acids

CO4: describe preparations, physical properties, and reactions of carboxylic acids and carboxylic acid derivatives

CO5: understand preparations and reactions of ethers and epoxides

CO6: understand various cleavages in ethers

CO7: understand the ring opening reactions of epoxides

CO8: understand preparation and reactions of nitroalkanes and nitroarenes

CO9: understand nomenclature, structural features, and methods of formation and chemical reactions of Organomagnesium, Organolithium, Organozinc and Organocopper compounds.

CO10: know the various methods of synthesis and compare electrophilic substitution, reactions of pyrrole, furan, thiophene and nucleophilic substitution reactions of pyridine.

CO11: compare the basicity of pyridine, piperidine and pyrrole.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)

Session-2021-22
Bachelor of Science (Medical) (Semester IV)
Session 2020-21

CHEMISTRY

Course Title: CHEMISTRY PRACTICAL

Course Code- BSMM-4084 (P)

(PRACTICAL)

COURSE OUTCOMES:

Students will be able to analyze the given organic compound through

CO1: detection of elements (N, S and halogens) in organic compounds.

CO2: detection of functional groups (phenolic, carboxylic, carbonyl, esters, carbohydrates, amines, amides, nitro and anilide) in simple organic compounds.

CO3: preparation of their derivatives.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical) (Semester IV) Session 2020-21

Bachelor of Science (Medical)

BOTANY
Session-2021-22

Course Title: DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS-I

Course Code- BSMM-4075 (I)

COURSE OUTCOMES: -

After passing this course the student will develop:

CO1: Understanding of characters of seed plants, origin and evolution of seed habit, angiosperms and gymnosperms

CO2: Understanding of general characters of gymnosperms, their classification and evolution including fossil and living gymnosperms.

CO3: Understanding of morphology of vegetative and reproductive parts of *Pinus* and *Cycas*.

CO4: Understanding of morphology of vegetative and reproductive parts of *Ephedra* and *Ginkgo*.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)
Bachelor of Science (Medical) (Semester IV)
Session-2021-22
Session 2020-21

BOTANY

Course Title: DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS-II

Course Code- BSMM-4075 (II)

(THEORY)

COURSE OUTCOMES:

After passing this course the student will be able to:

CO1: Describe the morphological and reproductive structure of plant and also identify different families.

CO2: Understand Botanical Nomenclature, classification of angiosperms, salient features of the systems proposed by Bentham & Hooker and Engler & Prantl.

CO3: Understand diversity of flowering plants in families like Ranunculaceae, Brassicaceae, Rutaceae, Fabaceae, Apiaceae, Acanthaceae.

CO4: Understand diversity of flowering plants in families like Apocynaceae, Asclepiadaceae, Solanaceae, Lamiaceae, Chenopodiaceae, Euphorbiaceae, Liliaceae, Orchidaceae and Poaceae.

Kanya MahaVidyalaya, Jalandhar (Autonomous)

CURRICULUM AND SCHEME OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAM

Bachelor of Science (Medical)
Bachelor of Science (Medical) (Semester IV)
Session-2021-22
Session 2020-21

BOTANY

Course Title: PRACTICAL IV- DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS-(I & II)

Course Code- BSMM-4075 (P)

(PRACTICAL)

COURSE OUTCOMES:

After passing this course the student will able to:

CO1: Identify different plants from different families through their vegetative and reproductive characters.

CO2: Understand different types of placentation system.

CO3: Understand anatomy of different genus from Gymnosperm.

Co4: Identify different parts of a flower.

FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

Course Title: QUALITY ASSURANCE Course Code- BSMM-4255 (T)

(THEORY)

COURSE OUTCOMES:

After passing this course the student will be able to:

CO1: Understand principles and methods of quality control and quality attributes (Colour, texture, size, shape and flavour).

CO2: Understand principles of HACCP and GMP.

CO3: Understand the principles of sensory evaluation, sampling.

CO4: Learn food laws and regulations (FSSAI, PFA, AGMARK, FPO, MFPO, BIS, ISO)

B.Sc. Medical (Semester-V) (Session 2020-21)

Course Title: PUNJABI (COMPULSORY)

Course Code- BSML- 5421

COURSE OUTCOMES:

- CO1:** u'DthnKgzikphejkDhnKBz{ gVQkT[D dk wB'oE ftfdnkoEhnKnzdo ejkDhnKgqshfdbu;gh, ;{M Bz{ g?dkeoBk j?.
- CO2:** Bktb J/j[jwkokihtDk (dbhge"ofNtkDk)Bz{ f;b/p; ftuPkfwbeo e/ ftfdnkoEhnKnzdoBktbgVQD dh o[uh Bz{ g?dkeoBk j? ns/ fJ; ;kfjs o{g Bkb Bkbi'VDk j?.
- CO3:** g?oQkouBkeoBBkbftfdnkoEhnkgDhrZb B{z efjD dh ikuf;ZyDr/ ns/ fJj fdwkrhe;osftu ;jkJh j't/rh.
- CO4:** obnzro/Ihg?oQ/ dk gzikphftunB[tkd dk wB'oE ftfdnkoEhnK dh p[ZXh B{z shyDeofdnKT[BK dh fbyDgqfsGk B{z T[ikroeoBk j?.
- CO5:** gzikphX[BhftTaa[As, tkekswei[rsK L w/b s/ nfXeko,ekoe s/ ekoeh ;zpzX Bz{ gVQkT[D dk wB'oE ftfdnkoEhnKnzdoGkPk dh nwhoh ns/ pkohehnK Bz{ ;wMDbJhtZyo/ - tZyo/ f;XKsK dk ftek; eoBk j?.

B.Sc. Medical (Semester–V) (Session 2020-21)

Course Title: Basic Punjabi

(In lieu of Punjabi Compulsory)

Course Code- BSML- 5031

COURSE OUTCOMES:

CO1: ' ;kfjs d/ ozr' g[[[;se d/ eftskGkrBz{ gVQkT[D dk wB'oE
ftfdnkoEhnKnzdo eftskgqshfdbu;gh, ;{M Bz{ g?dkeoBk j? sKfe T[j
nkX[fBed"oftuub ojhnKekftXkoktK ns/ ethnKpko/ frnkBjk;beo ;eD.fJ;
dk j'owB'oE eftsk dh ftnkfynk, ftPb/PD s/ w[bzeD dh gqfefonk
s'A ikD{ eokT[Dk th j? sKfe T[j ;wekbh ;wkidhnK ;wZf;nktKBz{ ;wM ;eD
ns/ nkb'uBkswe fdqPNhpDk ;eD.

CO2: ' ;kfjs d/ ozr' g[[[;se d/ ejkDhGkr B{z f;b/p; ftuPkwbeo e/
ftfdnkoEhnKnzdo ejkDhgVQD dh o[uh Bz{ g?dkeoBk j? ns/
ejkDhirsBkbi'VDk j?.

CO3: pj[s/ PpdK dh EK fJePpd ns/ pj[nkoEePpdBz{ gVQkT[D dk wB'oE
ftfdnkoEhnKnzdoftnkeoDgqshfdbu;gh, ;{M Bz{ g?dkeoBk j?.

CO4: ;wkBoEePpd, fto'XkoEe PpdBz{ gVQkT[D dk wB'oE ftfdnkoEhnKnzdo
ftnkeoDgqshfdbu;gh, ;{M Bz{ g?dkeoBk j?.

B. Sc. (Medical) (Semester-V) (Session 2020-21)

Course Title: Punjab History and Culture (From 1849-1947 A.D)

(Special paper in lieu of Punjabi Compulsory)

(For those students who are not domicile of Punjab)

Course Code: BSML-5431

COURSE OUTCOMES:

After completing the course student have understanding of Punjab in the pre-independence phase

CO 1: Students will understand major changes in the Punjab during British Rule

CO 2: They will also know about important agitations and their outcomes on the politics of the Punjab.

CO3: They will gain knowledge about the society and economy of Punjab

CO4: They will be able to evaluate the socio-religious reforms movements of Punjabi Society

CO5: They will have insights into the details of the partition of Punjab

B.Sc. Medical (Semester–V) (Session 2020-21)

ENGLISH

Course Title: English (Compulsory)

Course Code: BSML-5212

(Theory)

COURSE OUTCOMES

After passing this course, the students will be able to:

- CO1:** Widen their knowledge about various literary devices used in poetry such as tone, style, imagery, figures of speech, symbolism etc.
- CO2:** Develop power of imagination and appreciate the beauty, rhyme, and style of a poem
- CO3:** Analyze and appreciate the dramatic technique, plot development and art of characterisation in the prescribed play
- CO4:** Develop an understanding of the insights, genres, conventions and experimentations associated with English Drama
- CO5:** Develop the knowledge, skills and capabilities for effective business writing such as letter writing and resume writing

B.Sc. Medical (Semester–V) (Session 2020-21)

ZOOLOGY

Course Title: Developmental Biology

Course Code: BSMM-5483 (I)

(THEORY)

Course Outcome:

After successfully completing this course, students will be able to:

CO1: Identify the developmental stages.

CO2: Describe the key events in early and systematic embryological development.

CO3: Describe the process of gametogenesis.

CO4: Describe the chick development up to 96 hours of incubation and extra embryonic membranes.

CO5: Explain the theories of preformation, and concepts like growth, differentiation and reproduction.

CO6: Explain the principles and process of fertilization and cleavage.

B.Sc. Medical (Semester–V) (Session 2020-21)

ZOOLOGY

Course Title: Genetics

Course Code: BSMM-5483 (II)

(THEORY)

Course Outcome:

Upon successful completion, students will have the knowledge and skills to:

CO1: Comprehensive, detailed understanding of the chemical basis of heredity.

CO2: Comprehensive and detailed understanding of genetic methodology and how quantification of heritable traits in families and populations provides insight into cellular and molecular mechanisms.

CO3: Understanding of how genetic concepts affect broad societal issues including health and disease, food and natural resources, environmental sustainability, etc.

CO4: Understanding the role of genetic mechanisms in evolution.

CO5: The knowledge required to to design, execute, and analyze the results of genetic experimentation in animal and plant model systems.

CO6: Explain the key concepts in population,

CO7: Evolutionary and quantitative genetics including: the basis of genetic variation; heritability; Hardy-Weinberg Equilibrium, roles of migration, mutation

CO8: The ability to evaluate conclusions that are based on genetic data.

CO9: Insight into the mathematical, statistical, and computational basis of genetic analyses.

B.Sc. Medical (Semester–V) (Session 2020-21)

ZOOLOGY

Course Title: PRACTICAL–V (Related to Developmental Biology and Genetics)

Course Code: BSMM-5483 (P)

Course Outcomes

CO1: Understanding of development patterns of frog, chick and Larva of *Herdmania*.

CO2: Knowledge of process of gametogenesis.

CO3: Understanding of pedigree analysis and preparation of family charts

CO4: Understanding of inheritance of morphogenetic human characters.

CO5: Understanding of finger tip patterns.

B.Sc. Medical (Semester–V) (Session 2020-21)

MICROBIOLOGY

Course Title: Applied Microbiology-I

Course Code: BSMM-5343

(THEORY)

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand the history and scope of industrial microbiology, culture collection and preservation of stock cultures.

CO2: Understand the screening methods of isolation, fermentation media, its composition and characteristics of ideal production medium.

CO3: Learn about the fermentation processes, types of fermentation, design of fermentor and batch, fedbatch and continuous culture.

CO4: Understand the principles of recovery and purification of fermentation products, fermentation economics and patent.

B.Sc. Medical (Semester–V) (Session: 2020-21)

CHEMISTRY

Course Title: Inorganic Chemistry–I

Course Code: BSMM -5084 (I)

(THEORY)

Course outcomes:

Students will be able to:

CO1: Understand structure and bonding in molecules / ions and predict the structure of molecules / ions.

CO2: Use Crystal Field Theory to understand the structure, hybridisation, geometry and predict the colour of the complexes.

CO3: Describe the stability of metal complexes by the use of formation constants and to calculate thermodynamic parameters from them.

CO4: To describe the magnetic properties of coordination compounds.

CO5: Familiar with applications of coordination compound.

CO6: To draw Orgel diagrams for d 1 to d 10 systems and predict the possible transitions.

CO7: To calculate number of microstate and ground state term symbols.

CO8: Understand preparations, properties and applications of alkyls aryls of lithium and aluminium, bonding in metal-ethylenic complexes, mechanism of homogeneous hydrogenation.

B.Sc. Medical (Semester–V) (Session: 2020-21)

CHEMISTRY

Course Title: Physical Chemistry–II

Course Code: BSMM -5084 (II)

(THEORY)

Course outcomes:

Students will be able to:

CO1: Get knowledge about various electrochemical phenomena.

CO2: Get the theoretical knowledge of the various spectroscopic methods on the basis of the examples from the science and industry.

CO3: Use spectroscopic equipment such as MS, IR, NMR spectrometers.

CO4: Identify organic compounds by analysis and interpretation of spectral data.

CO5: Explain common terms in NMR spectroscopy such as chemical shift, coupling constant, and anisotropy and describe how they are affected by molecular structure.

CO6: Identify and define various types of nuclear transmutation including fission, fusion and decay reactions.

CO7: Define binding energy and mass defect and be able to calculate each for a given nucleus.

CO8: Understand and explain the concept of ionizing radiation and distinguish between the three different types of radiation.

CO9: Understand the concept of rate of change and half-life in the context of nuclear decay.

CO10: Understand the basics of nuclear chemistry applications.

CO11: identify an oxidation – reduction (redox) reaction based on changes in oxidation numbers across the chemical change.

CO12: Recognize degrees of reactivity based on an activity series table or a standard reduction potential table.

CO13: Describe fully the relationship between the free energy and the cell potential.

CO14: Explain thermodynamically the operation of a concentration cell and be able to predict the concentration in the cell based on the cell potential.

B.Sc. Medical (Semester–V) (Session: 2020-21)

CHEMISTRY

Course Title: Chemistry Practical

Course Code: BSMM -5084 (P)

(PRACTICAL)

Course outcomes:

Students will be able to

CO1: Synthesize and analyse the coordination compounds

CO2: Determine the end point of various conductometric titrations

CO3: Know the principle and working of Abbe's Refractometer

CO4: Determine the composition of unknown mixture of two liquids by refractive index measurements.

CO5: Learn the technique of Rast's methods

CO6: Learn phenomenon of adsorption of acetic acid and oxalic acid on charcoal

CO7: Learn distribution coefficient of iodine between CCl_4 and water

B.Sc. Medical (Semester-V) (Session 2020-21)

BOTANY

Course Title: Plant Physiology

Course Code: BSMM-5075 (I)

(THEORY)

Course outcome:

After passing this course the student will be able to:

CO1. Understand the plants and plant cells in relation to water.

CO2. Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways.

CO3. Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.

CO4. Learn about the movement of sap and absorption of water in plant body

B.Sc. Medical (Semester-V) (Session 2020-21)

BOTANY

Course Title: Biochemistry & Biotechnology

Course Code: BSMM-5075 (II)

(Theory)

Course outcome: -

After passing this course the student will be able to:

CO1. Understand the properties of Monosaccharide, Oligosaccharides and Polysaccharides.

CO2. Understand the Properties of saturated and unsaturated fatty acids.

CO3. Understand lipid metabolism and its significance in plants.

CO4. Understand structure and classification and protein biosynthesis in prokaryotes and eukaryotes. They will learn about the nucleic acid metabolism.

CO5. Understand the fundamentals of Recombinant DNA Technology. Know about the Genetic Engineering. Understand the principle and basic protocols for Plant Tissue Culture.

B.Sc. Medical (Semester-V) (Session 2020-21)

BOTANY

Course Title: PRACTICAL- related to Plant physiology, Biochemistry & Biotechnology

Course Code: BSMM-5075 (P)

Course outcome: -

After passing this course the student will be able:

CO1: determine the osmotic potential of cell sap by plasmolytic method.

CO2: determine the Diffusion Pressure Deficit (DPD) of plant cells.

CO3: determine the effect of time period on the rate of imbibition in different types of seeds.

CO4: determine the relation between absorption and transpiration.

B.Sc. Medical (Semester–V) (Session 2020-21)

FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

Course Title: Food Analysis

Course Code: BSMM- 5255

(THEORY)

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand the nutritional importance of food.

CO2: Understand the chemical and biochemical composition of foods and their importance for health, well being and safety of consumers

CO3: Understand physical characteristics of foods with special reference to rheological behavior and textural characteristics.

CO4: Understand the basics of chromatography techniques to separate and identify various biological molecules with special reference to amino acids, carbohydrates, lipids, nucleic acid, and proteins.

CO5: Understand the importance of legal standard, quality assurance, nutritional value determination and adulterants detection.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

Course Title: PUNJABI (COMPULSORY)

Course Code- BSML-6421

COURSE OUTCOMES:

CO1: uDthNk giKph ejkDhNk B gVkTD dk wBoE ftfDNkoEhNk Ndo ejkDhNkgshfdbu;gh, ;M B gdk eoBk j.

CO2: Bktb Jj jwkok ihtDk (dbhg eo fNtkDk)B f;bp; ftu PkfwB eo e ftfDNkoEhNk Ndo BktbgVD dh ouh B gdkeoBk j Ns fJ; ;kfjs og Bkb Bkb iVDk j.

CO3: gok ouBk eoB Bkb ftfDNkoEh NkgDh rb B efjD dh iku f;yDr Ns fJj fdwkrh e;os ftu ;jkJh jtrh.

CO4: ;ob NroIh go dk giKph ftu NBtkd dk wBoE ftfDNkoEhNk dh pXh B shyD eofdNk TBk dh fbyD gfsGk B Tikro eoBk j.

CO5: giKph XBh ftTls, tleKswe iRsK L wb s NfXeko,ekoe s ekoeh ;pX B gVkTD dk wBoE ftfDNkoEhNk Ndo GkPkdh Nwhoh Ns pkohehNk B ;wMD bJh tyo - tyo f;XKsK dk ftek; eoBk j.

Bachelor of Science (Medical) (Semester VI) Session 2020-21

Course Title: BASIC PUNJABI

IN LIEU OF PUNJABI (COMPULSORY)

Course Code- BSML-6031

COURSE OUTCOMES:

CO1: ‘;kfjs d or’ g;se d tkose Gkr B gVktTD dk wBoE ftfDNkoEhNk Ndo tkose gsh fdbu;gh, ;M B gdk eoBk j.

CO2: fJ; dk jo wBoE GkPD ebk s fbyD ebk dh fBgBsk gdk eoBk j.

CO3: ‘;kfjs d or’ g;se d oyk fuso Gkr B f;bp; ftu PkfwB eo e ftfDNkoEhNk Ndo oyk fuso B gVD dh ouh B gdkeoBk j s fJJBk wjkB P\;hNsK dh ;|bsk fgS xkbhNk xkbDktK s tke| eotkTfdNk ihtB ;X gdkB eoBk j.

CO4: NroIh sl giKph ftu NBtkd wBoE fbyD ebk dh fBgBsk gdk eoBk j.

CO5: GkPk Ns TgGkPk dh gfoGkPk s giKph dhNk TgGkPktK B gVktTD dk wBoE ftfDNkoEhNk Ndo GkPk Ns TgGkPk gshfdbu;gh, ;M B gdk eoBk j.

Bachelor of Science (Medical)
(Semester VI) Session 2020-21
Course Title: PUNJAB HISTORY AND CULTURE (1947-2000 A.D.)
(Special paper in lieu of Punjabi Compulsory) (For those students
who are not domicile of Punjab)
Course Code- BSML-6431

COURSE OUTCOMES:-

After completing this paper the students will be able to

CO 1:-comprehend Punjab's contribution in the freedom struggle, the exodus and Rehabilitation

CO 2:- understand the history of Punjab from independence with special reference to partition and the formation of NewPunjab in 1966

CO 3:- understand the objectives, planning and outcomes of Green Revolution in the Punjab

CO 4:- criticallyanalyze thegrowth of education, Punjabi literature and Drama in the Punjab after Independence

CO 5:-the drug abuse problem, management and prevention in the Punjab

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

ENGLISH

Course Title: ENGLISH (COMPULSORY)

Course Code- BSML-6212

COURSE OUTCOMES:

After passing this course, the students will be able to:

CO 1: Analyze and appreciate the dramatic technique, plot development and art of characterisation in the prescribed plays

CO 2: Comprehend, appreciate and critically analyse the novel *Train to Pakistan* by Khushwant Singh

CO 3: Enhance their reading and analysing power of texts through guided reading

CO 4: Develop skills for report writing and to write an essay on a given topic

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

ZOOLOGY

Course Title: MEDICAL ZOOLOGY

Course Code- BSMM-6483 (I)

(THEORY)

COURSE OUTCOMES:

After successfully completing this course, students will be able to:

- CO-1.** To study and understand the scope and branches of Medical Zoology.
- CO-2.** To aware the students for various parasites and diseases which spreads in human with the help of study of host-parasite relationship.
- CO-3.** To increase awareness for the health in students.
- CO-4.** Understand the various disease-causing vectors like Mosquitoes
- CO-5.** To aware about the typhoid, cholera like disease.
- CO-6.** Provides basics knowledge about immune system and allows the student to create insight as how to improve their immune system and good health.
- CO-7.** Types of immunity, antigens-antibodies and their properties
- CO-8.** Complement system, MHC's and immune response.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

ZOOLOGY

Course Title: MEDICAL LABORATORY TECHNOLOGY

Course Code- BSMM-6483 (II)

(THEORY)

COURSE OUTCOMES:

After successfully completing this course, students will be able to:

CO-1. Apply knowledge and **technical** skills associated with **medical lab technology**.

CO-2. Perform routine **clinical laboratory** procedures within acceptable quality control parameters in haematology, chemistry, immunohematology, and microbiology.

CO-3. Perform basic laboratory techniques on biological specimens.

CO-4 Comply with safety regulations and universal precaution.

CO-5. Apply basic scientific principles in learning new techniques and procedures.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

ZOOLOGY

Course Title: PRACTICAL VI- MEDICAL ZOOLOGY AND MEDICAL LABORATORY TECHNOLOGY

Course Code- BSMM-6483 (P)(PRACTICAL)

COURSE OUTCOMES:

CO1: Apply knowledge and **technical** skills associated with **medical laboratory technology** for delivering quality **clinical** investigations support.

CO2: Perform basic clinical laboratory procedures using appropriate laboratory techniques and instrumentation in accordance with current laboratory safety protocol

CO3: Recognize the role of medical laboratory technology in the context of providing quality patient health care.

CO4: Understanding of sterilization techniques

CO5: Students will learn about various histotechniques, handling and processing of tissue specimens as well as staining procedures.

CO6: Understanding of estimation of protein & sugar

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

MICROBIOLOGY

Course Title: APPLIED MICROBIOLOGY-II

Course Code- BSMM-6343 (T)

(THEORY)

COURSE OUTCOMES:

After passing this course the student will be able to:

CO1: Understand the processing and microbiology of different fermented foods.

CO2: Understand the role of yeast in fermentation process and the production of different industrial chemicals.

CO3: Understand the role of microorganisms in preparation of alcoholic beverages and industrial enzymes.

CO4: Understand the role of microorganisms in the production processes of vitamins, amino acids and antibiotics.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

CHEMISTRY

Course Title: ORGANIC CHEMISTRY-(I)

Course Code- BSMM-6084 (I)

(THEORY)

COURSE OUTCOMES:

Students will be able to

CO1: Learn about the Principle and applications of ultraviolet and Woodward Fisher Rule

CO2: understand the infra-red spectroscopy in organic structure determination

CO3: know about the Nuclear magnetic resonance spectroscopy,proton chemical shift,spin-spin coupling, coupling constants and applications to organic structures

CO4: learn about the different mechanisms involved in the polymer preparation

CO5: learn about the different polymerization techniques

CO6: Familiarize with structure, classification and the biological functioning of carbohydrates, aminoacids and nucleicacids.

CO7: understand the types and reactions given by organosulphur compounds

Session 2020-21

CHEMISTRY

Course Title: PHYSICAL CHEMISTRY-(II)

Course Code- BSMM-6084 (II)

(THEORY)

COURSE OUTCOMES:

Students will be able to

CO1: understand wave mechanics in three dimensions;

CO2: describe the structure of the hydrogen atom and show an understanding of quantisation of angular momentum.

CO3: understand and explain the differences between classical and quantum mechanics

CO4: understand the idea of wave function

CO5: understand the uncertainty relations

CO6: solve Schrodinger equation for simple potentials

CO7: spot, identify and relate the eigen value problems for energy, momentum, angular momentum and central potentials explain the idea of spin

CO8: apply the knowledge about photochemical and photophysical processes

CO9: acquire knowledge about the unit cell, space lattice, miller indices, symmetry operations , Bragg equation etc.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

CHEMISTRY

Course Title: CHEMISTRY (PRACTICAL)

Course Code- BSMM-6084 (P)

(PRACTICAL)

COURSE OUTCOMES:

Students will be able to

CO1: Separate the various mixtures by Column Chromatography technique

CO2: Synthesize different Organic Compounds

CO3: Synthesise the different compounds by Green Approach

CO4: Prepare the different dyes

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

BOTANY

Course Title: ECOLOGY

Course Code- BSMM-6075 (I)

(THEORY)

COURSE OUTCOMES: -

After passing this course the student will be able to:

CO1: Demonstrate practical fieldwork skills.

CO2: Demonstrate an understanding of key ecological interactions and processes.

CO3: Explain scales and patterns in ecology and biodiversity.

CO4: Appreciate the relationships between ecology and society.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

BOTANY

Course Title: ECONOMIC BOTANY

Course Code- BSMM-6075 (II)

(THEORY)

COURSE OUTCOMES:

On completion of this course, the students will be able to:

CO1: Understand core concepts of Economic Botany and relate with environment, populations, communities, and ecosystems.

CO2: Develop critical understanding on the evolution of concept of organization of apex new crops/varieties, importance of germplasm diversity, issues related to access and ownership.

CO3: Develop a basic knowledge of taxonomic diversity and important families of useful plants.

CO4: Increase the awareness and appreciation of plants & plant products encountered in everyday life.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

BOTANY

Course Title: PRACTICAL VI- ECOLOGY AND ECONOMIC BOTANY

Course Code- BSMM-6075 (P)

(PRACTICAL)

COURSE OUTCOMES:

On completion of this course, the students will be able to:

CO1: Determine abundance and frequency of species by quadrat method.

CO2: Measure the dissolved oxygen content in polluted and unpolluted water samples.

CO3: Study anatomical peculiarities with reference to ecological adaptations.

CO4: Prepare different stains, solutions and reagents as per theory paper.

CO5: Understand the economic importance of plants.

CO6: Acquire knowledge in the preparation of herbarium techniques, Submission of field report and practical records.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

Course Title: FOOD PLANT LAYOUT AND MANAGEMENT

Course Code- BSMM-6255 (T)

(THEORY)

COURSE OUTCOMES:

After passing this course the student will be able to:

CO1: Understand the importance of plant layout and learn how to set up the proper plant layout to reduce the production cost and increase the productivity.

CO2: Learn how market research helps to understand the consumers, their needs and their satisfaction level.

CO3: Understand the societal changes and their impact on food consumption trends.

CO4: Learn about different types of food products and study the different steps involved in the product development.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

BIOINFORMATICS (VOCATIONAL)

Course Title: STRUCTURAL BIOLOGY AND MOLECULAR MODELLING

Course Code- BSMM-6046 (T)

(THEORY)

COURSE OUTCOMES:

On completion of this course students will be able to

CO1: Understand the concept of protein sequencing.

CO2: Use different protein structure prediction tools

CO3: Understand the concept of drug designing.

CO4: Use different simulation techniques.

Bachelor of Science (Medical) (Semester VI)

Session 2020-21

BIOINFORMATICS (VOCATIONAL)

Course Title: STRUCTURAL BIOLOGY AND MOLECULAR MODELLING

Course Code- BSMM-6046 (P)

(PRACTICAL)

COURSE OUTCOMES:

On completion of this course students will be able to

CO1: Use different softwares for DNA and protein sequencing

CO2: Use GOR, CHOUFASMAN for protein structure prediction

CO3: Use Autodock and Hex for drug designing..