MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
JAIPUR

Syllabus

B. Sc. Clinical Embryology

3 Year (6 Semester) Undergraduate Degree Course

2023-24

Recommended by Committee of Courses Paramedical Sciences & Medical technology at its meeting held on 03/03/2023 and approved by Academic Council at its meeting held on 28/04/2023.

Notice

- The university reserves the right to make changes in the Rules / Regulations / Syllabus / Books / Guidelines / Fees-Structure or any other information at any time without prior notice. The decision of the University shall be binding on all.

- The Jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

RULES & REGULATIONS OF
B. Sc. Clinical Embryology

PROGRAM CODE: B. Sc. Clinical Embryology -23
3 Years (6 Semester) Undergraduate Degree Course

1. INTRODUCTION:

GOALS OF THE COURSE: The undergraduate course B. Sc (Clinical Embryology) should enable a medical graduate to become a competent embryologist, acquire knowledge and skills in educational technology and conduct research in bio-medical sciences.

COURSE OUTCOME: At the end of the course,Undergraduate in Clinical Embryology shall be able to: 1) Demonstrate comprehensive knowledge and understanding of gross and microscopic structure of the human gametes and embryos. 2) Observe and assist in embryology lab procedure like oocyte retrieval, Conventional IVF and ICSI, Cryopreservation of human gametes and embryos. 3) Independently maintain records and documents in an IVF lab as well maintain QA/QC records of lab.

GOALS OF THE COURSE:

1. Understand the basics concepts of embryology
2. Should be well versed setting up an IVF laboratory according to standard available and well versed in quality control measures.
3. Demonstrate knowledge of basic and systemic embryology including human genetics, genetic inheritance, gene regulation, immunology and stem cell therapy.
4. Develop a basic understanding of biochemistry, endocrinology, and pharmacology.
5. Independently handle semen and its processing for both techniques –Intrauterine Insemination (IUI) and in – vitro fertilization (IVF).
6. Be acquainted with mouse anatomy and physiology and should be able to identify and observed the human gametes in the scenario of IVF and ICSI.
7. Assess viability of embryos and their developmental competence with fair accuracy.
8. Observe Cryopreservation of human gametes and embryos, thawing them and subsequently development to transfer into the uterus.

LEARNING ACTIVITIES:

- Self-learning, use of computers and library
- Participation in departmental activities;
- Clinical presentation
- Clinical rounds
- Participation in conference
- Rotation and posting in Department

2. TITLE OF THE COURSE:

B. Sc Clinical Embryology

3. DURATION OF THE COURSE:

The duration of B. Sc Clinical Embryology course shall be 3 three continuous academic years (6 Semester) on a full time basis in each specialization.

4. MEDIUM OF INSTRUCTION:

English shall be the medium of instruction for all the subjects of study and for examination of the course.

5. ELIGIBILITY:

- Candidate should have passed 10+2 (12^{th} standard) or equivalent examination with science stream i.e. Physics, Chemistry, Biology and English with 45% marks in the aggregate of all the subjects prescribed for the examination for general and 40% for SC/ST/OBC candidate.
- Candidate should have completed the minimum age of 17 years as on 31^{st} December of the year of admission.
- Selection of the candidate shall be on the basis of merit of 10+2 examination or joint entrance examination conducted by the university.

6. PROCESS OF ADMISSION:

Admission to B. Sc Clinical Embryology program shall be made on the basis of written entrance examination conducted for the purpose.

7. RESERVATION POLICY:

Reservation in admissions shall be applicable as per policy of the State Government.

8. ATTENDANCE:

Minimum 75 % attendance is required in each Semester, both for theory and practical classes separately, student with deficient attendance will not be permitted to appear in End of Semester Examination (EoSE).

9. WORKING DAYS:

Each semester shall consist of not less than 130 working days including examination.

10. SYLLABUS:

The curriculum and the scheme of examination for the course shall be as prescribed by the University from time to time.

11. COMMENCEMENT OF THE COURSE:

The Course shall commence from the 1st August of every Academic year.

12. ENROLMENT:

Every candidate who is admitted to B. Sc Clinical Embryology Degree Program in Mahatma Gandhi Institute of Allied Health Sciences shall be required to get himself/herself enrolled with the Mahatma Gandhi University of Medical Sciences & Technology (MGUMST) after paying the prescribed eligibility and enrolment fees.

A candidate shall deposit enrolment fees along with tuition fees at the time of his/her admission to the course. Such a candidate who fails to submit, to the college/Institute Principal/Director, duly filled enrolment form along with original documents including migration certificate required for enrolment within prescribed period then after he/she shall pay late fee applicable at that time. No student will be allowed to appear in the End of Semester Examination (EoSE) without his/her enrollment.

13. REGISTRATION:

A candidate admitted to this course shall register with this University by remitting the prescribed fee along with the application form for registration duly filled in and forwarded to the University through the Principal/Director of the College/Institute within the stipulated time.

14. CONDUCTION OF THE END OF SEMESTER EXAMINATION (EOSE):

University semester examination shall be conducted twice in a year with an interval of six months. Even semester examination shall be conducted after 6 months of odd semester examination.

15. ELIGIBILITY TO APPEAR FOR END OF SEMESTER EXAMINATION (EOSE):

Student is required to have minimum 75% attendance (in theory and practical separately), to make him/her eligible to student failing in one or more, subject in a semester will be required to appear in their failing subject in the next examination of the same semester next year.

A candidate will have to clear all the subjects of First to Fifth semester before appearing at Sixth End of Semester Examination.

16. PAPER SETTER/EXAMINER:

- All the examiners - Paper setters, Theory examination answer books evaluators, Internal and External Examiners for Practical examinations shall be appointed by the

President of the University from the panel submitted by Principal/Director/ through Convenor of the respective COC through concern dean of the faculty.

- Paper setters shall be Internal/external examiner who will assess the answer sheets of their respective papers.
- For the First to Fourth Semester examinations – these respective above theory papers shall be set by the Internal Examiners covering their respective areas of syllabus. For each question paper there shall be a separate Internal Examiner. The answer books shall be evaluated by the concerned Internal Examiners (Papers Setters).
- In Fifth and Sixth semester examination, one of the papers shall be set and evaluated by an External Examiner. In other words, one of the Internal has to be substituted by the External Examiner. The External Examiner (Paper Setter) shall evaluate his/her paper.

- Qualification of the Paper setter / Examiner (Internal/external)

(All examiners should possess at least masters qualification in relevant field of necessary and examiner shall be a teaching or non-teaching staff in a medical college)

i. Assistant professor and above with at least 3 years of working experience (Clinical or academic)
ii. Tutor/demonstrator with at least 5 years of working experience (Clinical or Academic)
iii. M. Sc Clinical Embryology and above with at least 3 years of working experience (Clinical or Academic)

17. SCHEME OF EXAMINATION:

- The End of Semester Examination (EoSE) (End of Semester Examination or EOSE) for the Course shall be conducted semester wise at the end of every semester.
- There shall be Six semester examinations of (semester I, II, III, IV, V & VI) Course in three academic years.

- A candidate who has completed a regular course of study prescribed for semester I, II, III, IV, V for one academic year shall be eligible to appear at semester VI examination.
- A candidate failing in any number of subjects at the 1st semester examination shall be allowed to appear in the failing subjects at the ensuing next semester examination.
- A candidate who has not passed even a single subject (theory & practical) in a semester I, II, III, IV, V examination shall not be promoted to semester VI.
- A candidate who has passed one or more subject(s) of semester I, II, III, IV, V examination will be promoted to semester VI course. After completion of regular course of study for one semester of B. Sc Clinical Embryology course he/she shall be eligible for semester VI examination only after passing all the due papers of semester I, II, III, IV, V i.e. a candidate shall be eligible to appear for semester VI examination only when all the prescribed papers of semester I, II, III, IV, V examination have been passed by him/her, even if he/she has attended all the theory and practical classes of semester VI.
- A candidate will be permitted to avail any number of attempts to pass all the papers of semester I, II, III, IV, V, VI course but he/she will be required to complete the

entire B. Sc Clinical Embryology course within three years of his/her admission to B. Sc Clinical Embryology course.

I. INTERNAL ASSESSMENTS (Continuous Assessment)-

- There shall be two Continuous Assessment (CA) Examinations in each semester in theory and practical at the college/Institute level. These shall carry 30% of total marks assigned to Theory and Practical Examination.
- Candidates failing to secure 40% marks in the aggregate of two Continuous Assessment (CA) tests in any subject shall not be allowed to appear in concerned subject (s) in the ensuing university semester examination.
- Two Continuous Assessment (CA) examinations will be held in each subject (Theory and Practical separately) before the commencement of the end of semester examination.
- In case the examination forms have already been filled and submitted in the university, the principal/director will detain such students from appearing in the End of Semester Examination (EoSE) of concerned subject(s). Mode and number of Continuous Assessment (CA) tests will be determined at the level of the principal/director of the college.
- A candidate may improve his/her Continuous Assessment (CA) marks whenever he/she reappears. In case the candidate does not opt for improvement or doesn't improve, his/her earlier Continuous Assessment (CA) marks would be conveyed by the principal/director to the university.

A. Theory Examination

Mode of examination: Tests can be taken by the concerned teacher as and when he /she requires, which includes written test, pro seminars, quizzes, assignments, group discussion etc.

B. Practical Examination

Continuous Assessment (CA) of the practical examination is based on the monthly report of the clinical posting obtained from the student, case discussions held from time to time and practical examination held in respective ward

II. UNIVERSITY SEMESTER EXAMINATION: (End of Semester Examination) EoSE

At the end of every academic semester, after completion of the course of study there shall be University end Semester theory and practical examination. These shall carry 70% of total marks assigned to Theory Examination.

A. Theory:

Paper carrying 70 Marks:

Long answer (essay type) questions (4 out of 6)	4x10= 40
Short answer questions (6out of 8)	5x6= 30

Distribution of Theory Marks

Question Type	Total No of Questions	Questions Need to be attempted	Marks per Question	Total Marks
Long answer Essay Type questions	6	4	10	40
Short answer questions	8	6	5	30
Total Marks	**-**	**-**	**-**	**70**

B. Practical Examination including viva-voice:

- These shall be related to assessments, investigations and clinical embryology management. The End of Semester Examination (EoSE) shall carry 70% of total marks assigned to practical including viva-voce.
- Mode of examination: long case assessment, short case, written, Demonstration, Investigations & Viva
- Examiners: 02 Examiners from the University panel)
  - For the First to Fourth Semester practical examiners should be internal
  - In Fifth and Sixth Semester practical examiners should be one internal and external.

18. RESULT:

CRITERIA FOR PASS:
In order to pass an examination a candidate must secure 50% marks in each theory subject (inclusive of Continuous Assessment (CA)) and practical (inclusive of Continuous Assessment (CA)) & Dissertation viva-voce separately.

19. REVALUATION/SCRUTINY

Re-evaluation of Theory paper answer books and scrutiny of marks shall be permissible as per University Rules.

Permission for revaluation / scrutiny

1. In 1st Attempt – Revaluation shall be permitted in 25% of the appeared papers. Scrutiny shall be permitted for all the papers.
2. In 2nd Attempt – Only scrutiny shall be permitted in all the papers. Revaluation shall not be permitted.
3. Revaluation shall also be permitted in 25% of such papers in which a candidate appears for the 1st time irrespective of his attempt in the whole examination.
4. For determining the attempt, following criteria shall be followed –

S. No.	Situation	Attempt in next examination	
1.	Candidate is detained in all subjects	His attempt in all the subjects in the next examination will be treated as	1st Attempt
2.	Candidate permitted in all subjects but did not appear in all permitted subjects	His attempt in the next examination will be treated as	1st Attempt
3.	Candidate is detained in one / few subjects Permitted for the rest of the subjects Appeared in permitted subjects	His attempt in the detained subject(s) in the next examination will be treated as	2nd Attempt
4.	Candidate is detained in one / few subjects Permitted in the rest of the subjects Did not appear in the permitted subjects	His attempt in the next examination In detained subject(s) will be treated as In permitted subject(s) will be treated as	1st Attempt
5.	Candidate permitted in all subjects But did not appear in few subjects	His attempt in the permitted subjects in the next examination will be treated as	2nd Attempt

20. SUPPLEMENTARY EXAMINATION:

There shall be a supplementary examination of VI semester only within two months of the declaration of the result of the main examination of VI Semester.

21. PROMOTION TO THE NEXT SEMESTER

1. A candidate who has passed or failed in one or more subjects shall be promoted to respective next semester.

2. A candidate will be allowed to appear for the VI semester examination only when the backlog of all papers (theory papers and practical) of I semester to V semester exams including elective papers (if any) is cleared.

22. AWARD OF DEGREE

The candidate shall be awarded a degree only when he/she has earned a total of ----------credit of the program on successful completion of all the courses and the submission and approval of the dissertation

Table 1: Grades and Grade Points:

Letter Grade	Grade Point	Percentage of Marks
O (Outstanding)	10	100%
A+ (Excellent)	9	90-99.99%
A (Very Good)	8	80-89.99%
B+ (Good)	7	70-79.99%
B (Above Average)	6	60-69.99%
C (Average)	5	50-59.99%
F (Fail)/ RA (Reappear)	0	0 Less than 50%
Ab (Absent)	0	0 Absent

Grades Qualifying for Pass:

Theory and Practical Examination

1. **Minimum 5 Grade** in the End of Semester Examination (EoSE) and **5 Grade** in Continuous Assessment (CA) evaluated bythe department are required to pass **who fails to obtain 5 Grade shall be declared failed.**

2. A student obtaining **Grade F** shall be considered **failed** and will be required to reappear in the examination.

3. Letter Grade **Ab (Absent)** will be showing the absent of the candidate in examination and will berequired to reappear in the examination.

4.

Credit Weightage Distribution (%)

Item	**Credit Weight (%)**
Continuous Assessment (CA)	
Class participation/presentation, study records	10.00%
Assignment, quizzes and summer training report	10.00%
Departmental Postings, case studies, project reports	10.00%
End of Semester Exam (EoSE)	
70.00%	
Total	**100%**

23. AUTHORITY TO ISSUE TRANSCRIPT;

The Controller of Examination of the University shall be the authority for issuing transcript after receivingthe described fee from the candidate.

24. WORKING HOURS/DAYS

Duration	**3 Years (6 Semesters)**
Working Days	6 Days in A Week
Working Hours	42 Hours in A Week

25. TYPES OF COURSES IN B. SC CLINICAL EMBRYOLOGY -

1. **Core Course-**course designed under this category aim to cover the basics that a student is expected to imbibe in the discipline of B. Sc Clinical Embryology A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

2. **Elective Course-**it is a course which can be chosen from a pool of courses it is specific or specialized or advanced or supportive to the discipline of B. Sc Clinical Embryology Students have to **CHOOSE ANY ONE COURSE IN EACH SEMESTER** from the pool of course given to that semester.

3. **Ability Enhancement Courses (AEC) /Practical:** The Ability Enhancement (AE) Courses or practical are the courses based upon the content that leads to Knowledge enhancement. They are skill-based and are aimed at providing hands-on-training, competencies, skills, etc.

26. Computation of SGPA and CGPA

The UGC recommends the following procedure to compute the Semester Grade Point average (SGPA) and Cumulative Grade Point Average (CGPA):

i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e

SGPA $(Si) = \sum(Ci \times Gi) / \sum Ci$

where C_i is the number of credits of the ith course and G_i is the grade point scored by the student in the ith course.

ii. The CGPA is also calculated in the same manner taking into account all the courses undergone bya student over all the semesters of a program, i.e.

CGPA = $\sum(Ci \times Si) / \sum Ci$

where Si is the SGPA of the semester and Ci is the total number of credits in that semester.

iii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in thetranscripts.

Illustration of Computation of SGPA and CGPA and Format for Transcripts

i. Computation of SGPA and CGPA

Illustration for **SGPA**

Course	**Credit**	**Grade letter**	**Grade point**	**Credit Point** (Credit x Grade
Course 1	4	A	8	4X8=32
Course 2	4	B+	7	4X7=28
Course 3	4	B	6	4X6=24
Course 4	4	O	10	4X10=40
Course 5	11	C	5	11X5=55
Course 6	3	B	6	3X6=18
	29			197

Thus, **SGPA =201/29 = 6.93**

Illustration for **CGPA**

Semester 1	**Semester 2**	**Semester 3**	**Semester 4**
Credit: 29 SGPA: 6.93	Credit: 29 SGPA:6.93	Credit: 29 SGPA: 6.93	Credit: 29 SGPA: 6.93
Semester 5	**Semester 6**		
Credit: 29 SGPA: 6.93	Credit: 29 SGPA:6.93		

Thus, CGPA = 29 x 6.93 + 29 x 6.93 + 29 x 6.93 + 29 x 6.93 + 29 x 6.93 +29 x 6.93 = 6.93

27. VACATION:

The Principal of the College may declare vacation in an academic year to the students as per the academic calendar.

Recommended Teaching Hours of Instruction for each subject

B. Sc Clinical Embryology (I- Semester) Examination
Core Course

Course Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623101	Paper-I- Anatomy and histology of Male and Female reproductive system	60	-	60	6	4
BSC0623102	Paper-II- General and Systematic Embryology	60	-	60	6	4
BSC0623103	Paper-III- Basics of General Physiology	60	-	60	6	4
BSC0623104	Paper-IV- Reproductive Physiology	60	-	60	6	4
BSC0623105	Paper-V Practical/Clinical Training	-	330	330	12	11
	Total	**240**	**330**	**570**	**36**	**27**

- **Practical (Based on Viva, Case presentation, seminar of clinical postings)**

Elective Course (Elect any one)

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623106	Yoga Therapy	45	-	45	02	3
BSC0623107	Basic Computer	45	-	45	02	
BSC0623108	English	45	-	45	02	
	Total	**45**		**45**	**02**	**3**

B. Sc Clinical Embryology (II- Semester) Examination Core Course

Course Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623201	Paper-I- Basics of Biochemistry & molecular biology	60	-	60	6	4
BSC0623202	Paper-II- Basics of Genetics	60	-	60	6	4
BSC0623203	Paper-III- Basics of General Pathology	60	-	60	6	4
BSC0623204	Paper-IV- Basics of Haematology	60	-	60	6	4
BSC0623205	Paper-V Practical/Clinical Training	-	330	330	12	11
	Total	**240**	**330**	**570**	**36**	**27**

- **Practical (Based on Viva, Case presentation, clinical postings)**

Elective Course (Elect any one)

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623206	Environmental science	45	-	45	02	3
BSC0623207	Medical terminology	45	-	45	02	
BSC0623208	Infection prevention & control	45	-	45	02	
	Total	**45**		**45**	**02**	**3**

B. Sc Clinical Embryology (III- Semester) Examination Core Course

Course Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623301	Paper-I- Basics of Andrology and Embryo culture	60	-	60	6	4
BSC0623302	Paper-II- Basics of Pharmacology and Toxicology	60	-	60	6	4
BSC0623303	Paper-III- General Microbiology	60	-	60	6	4
BSC0623304	Paper-IV- Reproductive Endocrinology	60	-	60	6	4
BSC0623305	Paper-V Practical/Clinical Training	-	330	330	12	11
	Total	**240**	**330**	**570**	**36**	**27**

Practical (Based on Viva, Case presentation, Data collection, seminar of clinical postings)

Elective Course (Elect any one)

Course Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623306	Medical record science	45	-	45	02	3
BSC0623307	Healthcare	45	-	45	02	
BSC0623308	Disaster management	45	-	45	02	
	Total	**45**		**45**	**02**	**3**

B. Sc Clinical Embryology (IV- Semester) Examination
Core Course

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623401	Paper-I- Reproductive pathology	60	-	60	6	4
BSC0623402	Paper-II- Reproductive Pharmacology	60	-	60	6	4
BSC0623403	Paper-III- Basics of ART Lab	60	-	60	6	4
BSC0623404	Paper-IV- Embryology in ART	60	-	60	6	4
BSC0623405	Clinical Training	-	330	330	12	11
	Total	**240**	**330**	**570**	**36**	**27**

- **Practical (Based on Viva, Case presentation, Data collection, seminar of clinical postings)**

Elective Course (Elect any one)

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623406	Community health	45	-	45	02	3
BSC0623407	First aid and emergency help	45	-	45	02	
BSC0623408	Medical ethics and law in public health	45	-	45	02	
	Total	**45**		**45**	**02**	**3**

B. Sc Clinical Embryology (V- Semester) Examination
Core Course

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623501	Paper-I- Principal of ovarian stimulation and IUI	60	-	60	6	4
BSC0623502	Paper-II- Assisted Reproductive Technology	60	-	60	6	4
BSC0623503	Paper-III- Third Party Reproduction	60	-	60	6	4
BSC0623504	Paper-IV- Micromanipulation Techniques	60	-	60	6	4
BSC0623505	Clinical Training	-	330	330	12	11
	Total	**240**	**330**	**570**	**36**	**27**

- **Practical (Based on Viva, Case presentation, Data collection, seminar of clinical postings)**

Elective Course (Elect any one)

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623506	Quality in healthcare	45	-	45	02	3
BSC0623507	Therapeutic Yoga	45	-	45	02	
BSC0623508	Clinical psychology	45	-	45	02	
	Total	**45**		**45**	**02**	**3**

B. Sc Clinical Embryology (VI- Semester) Examination
Core Course

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623601	Paper-I- Cryopreservation and Reproductive Genetics	60	-	60	6	4
BSC0623602	Paper-II- Recent advances in ART	60	-	60	6	4
BSC0623603	Paper-III- Ethical & legal aspects of ART	60	-	60	6	4
BSC0623604	Paper-IV- Research methodology & biostatistics	60	-	60	6	4
BSC0623605	Clinical Training	-	330	330	12	11
	Total	**240**	**330**	**570**	**36**	**27**

- **Practical (Based on Viva, Case presentation, Data collection, seminar of clinical postings)**

Elective Course (Elect any one)

Elective Code	Subject	Theory	Practical	Total	Hours/ Week	Credit
BSC0623606	Clinical Nutrition	45	-	45	02	3
BSC0623607	Basic life support	45	-	45	02	
BSC0623608	Organizational behavior	45	-	45	02	
	Total	**45**		**45**	**02**	**3**

Marks Distribution

B. Sc Clinical Embryology (I- Semester) Examination - Core Course

Theory Core Course					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623101	Paper-I- Anatomy and histology of Male and Female reproductive system	4	70	30	100
BSC0623102	Paper-II- General and Systematic Embryology	4	70	30	100
BSC0623103	Paper-III- Basics of General Physiology	4	70	30	100
BSC0623104	Paper-IV- Reproductive Physiology	4	70	30	100
BSC0623105	Paper-V- practical/clinical posting	11	140	60	200
Total		**27**	**420**	**180**	**600**
Elective Course (Elect any one)					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623106	Yoga Therapy	3	70	30	100
BSC0623107	Basic Computer		70	30	100
BSC0623108	English		70	30	100
Total		**3**	**70**	**30**	**100**

B. Sc Clinical Embryology (II- Semester) Examination - Core Course

Theory Core Course					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623201	Paper-I- Basics of Biochemistry & molecular biology	4	70	30	100
BSC0623202	Paper-II- Basics of Genetics	4	70	30	100
BSC0623203	Paper-III- Basics of General Pathology	4	70	30	100
BSC0623204	Paper-IV- Basics of Haematology	4	70	30	100
BSC0623205	Paper-V- Practical/Clinical posting	11	140	60	200
Total		**27**	**420**	**180**	**600**

Elective Course (Elect any one)					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623206	Environmental science	**3**	70	30	100
BSC0623207	Medical terminology		70	30	100
BSC0623208	Infection prevention & control		70	30	100
		3	**70**	**30**	**100**

B. Sc Clinical Embryology (III- Semester) Examination - Core Course

Theory Core Course					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623301	Paper-I- Basics of Andrology and Embryo culture	4	70	30	100
BSC0623302	Paper-II- Basics of Pharmacology and Toxicology	4	70	30	100
BSC0623303	Paper-III- General Microbiology	4	70	30	100
BSC0623304	Paper-IV- Reproductive Endocrinology	4	70	30	100
BSC0623305	Paper-V- Practical/Clinical posting	11	140	60	200
Total		**27**	**420**	**180**	**600**
Elective Course (Elect any one)					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623306	Medical record science	3	70	30	100
BSC0623307	Healthcare		70	30	100
BSC0623308	Disaster management		70	30	100
Total		**3**	**70**	**30**	**100**

B. Sc Clinical Embryology (IV- Semester) Examination - Core Course

Theory Core Course					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623401	Paper-I- Reproductive pathology	4	70	30	100
BSC0623402	Paper-II- Reproductive Pharmacology	4	70	30	100
BSC0623403	Paper-III- Basics of ART Lab	4	70	30	100
BSC0623404	Paper-IV- Embryology in ART	4	70	30	100
BSC0623405	Paper-V- Practical/Clinical posting	11	140	60	200
Total		**27**	**420**	**180**	**600**
Elective Course (Elect any one)					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623406	Community health	3	70	30	100
BSC0623407	First aid and emergency help		70	30	100
BSC0623408	Medical ethics and law in public health		70	30	100
Total		**3**	**70**	**30**	**100**

B. Sc Clinical Embryology (V- Semester) Examination - Core Course

Theory Core Course					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623501	Paper-I- Principal of ovarian stimulation and IUI	4	70	30	100
BSC0623502	Paper-II- Assisted Reproductive Technology	4	70	30	100
BSC0623503	Paper-III- Third Party Reproduction	4	70	30	100
BSC0623504	Paper-IV- Micromanipulation Techniques	4	70	30	100
BSC0623505	Paper-V- Practical/ Clinical posting	11	140	60	200
Total		**27**	**420**	**180**	**600**
Elective Course (Elect any one)					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623506	Quality in health care	3	70	30	100
BSC0623507	Therapeutic Yoga		70	30	100
BSC0623508	Clinical psychology		70	30	100
Total		**3**	**70**	**30**	**100**

B. Sc Clinical Embryology (VI- Semester) Examination - Core Course

Theory Core Course					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623601	Paper-I- Cryopreservation and Reproductive Genetics	4	70	30	100
BSC0623602	Paper-II- Recent advances in ART	4	70	30	100
BSC0623603	Paper-III- Ethical & legal aspects of ART	4	70	30	100
BSC0623604	Paper-IV- Research methodology & biostatistics	4	70	30	100
BSC0623605	Paper-V- Practical/ Clinical posting	11	140	60	200
Total		**27**	**420**	**180**	**600**
Elective Course (Elect any one)					
Paper Code	**Subject**	**Credit**	**End of Semester Exam**	**Continuous Assessment**	**Total Marks**
BSC0623606	Clinical Nutrition	3	70	30	100
BSC0623607	Basic life support		70	30	100
BSC0623608	Organizational behavior		70	30	100
Total		**3**	**70**	**30**	**100**

B. Sc Clinical Embryology

Syllabus

1st year

Semester - I

Theory & Practical Paper:

Paper-I - Anatomy and histology of Male and Female reproductive system

Paper-II– General and Systematic Embryology

Paper – III - Basics of General Physiology

Paper – IV – Reproductive Physiology

Paper-I – Anatomy and Histology of Male and Female reproductive system

Relevant Gross Anatomy

Unit	Topic	
1	Introduction to anatomy -	Introduction and terminology
2	Male reproductive system -	External genital of male
		Testis – structure, coverings, blood supply, nerve supply, lymphatic drainage, applied anatomy
		Epididymis - structure, blood supply, , applied anatomy
		Spermatic cord – coverings, contents, applied anatomy
		Vas deferens - structure, blood supply, applied anatomy
		Seminal vesicle - structure, blood supply, applied anatomy
		Prostate - structure, capsule, blood supply, nerve supply, lymphatic drainage, applied anatomy
3	Female reproductive system -	External genital of female
		Ovary - structure, blood supply, nerve supply, lymphatic drainage, applied anatomy
		Fallopian tube - structure, blood supply, nerve supply, lymphatic drainage, applied anatomy
		Uterus - structure, supports, blood supply, nerve supply, lymphatic drainage, applied anatomy
		Vagina - structure, blood supply, nerve supply, lymphatic drainage, applied anatomy
		Mammary gland - structure, blood supply, nerve supply, lymphatic drainage, applied anatomy
4	Urinary system -	Urinary bladder - structure, blood supply, nerve supply, lymphatic drainage, applied anatomy

5	Endocrine system -	Hypothalamus - structure, nuclei, blood supply, applied anatomy
		Pituitary - structure, relations, blood supply, nerve supply, applied anatomy
		Thyroid - structure, capsule, relations, blood supply, nerve supply, lymphatic drainage, applied anatomy
		Suprarenal - structure, relations, blood supply, nerve supply, lymphatic drainage, applied anatomy

Paper-II– General and Systematic Embryology

Unit	Topic	
1	Introduction	Introduction to embryology
		Cell division – mitosis, meiosis, cell cycle
		Gametogenesis – spermatogenesis, Oogenesis and ovarian cycle
		Menstrual cycle
2	1st week	Fertilization
		1st week of development with implantation
3	2nd week	2nd week of development – amniotic cavity, yolk sac, Bilaminar germ disc
4	3rd week	Gastrulation, Primitive streak and three germ layers
		Notochord
		Neural tube development
5	4th week	Fate of germ layers and derivatives of germ layers
		Folding of embryo
6	Trophoblast and twinning	Development of trophoblast and its derivatives
		Development of placenta
		Twinning
7	CVS	
		Fetal circulation
8	Urinary system	Development of Urinary system
9	MRS	Development of Male reproductive system
10	FRS	Development of Female reproductive system Female
11	Teratogenesis	Teratogenesis

Paper-III– Basics of General Physiology

Topic
General physiology
Hematology - Blood and body fluids
Basics of immune system
Integrated physiology

Paper-IV: Reproductive Physiology.

UNIT -1

- Gonadal changes from birth to puberty, Puberty and its timing, Environmental factors and puberty
- Gamete biology: Spermatogenesis and oogenesis.
- Anatomy of the male and female reproductive system Male and female reproductive system: congenital or developmental disorders associated with primary testicular disorder.
- Oogenesis and folliculogenesis
- Regulation of menstrual cycle
- Physiology of menstrual cycle
- Sperm production and migration
- Ultrastructure of human gametes, fertilization and embryos in assisted reproduction: a personal survey
- Endometrial receptivity
- Implantation
- Infertility trends worldwide, infertility in India.
- Various Environmental factor effects on male and female infertility.
- Clinical examination of male and female reproductive system.

UNIT -2

- Immunology of pregnancy
- Puberty and Psychological adjustment
- Reproductive ageing
- Endocrinology of pregnancy

Practical

Histology (Anatomy and Histology of Male and Female reproductive system)

Unit	Topic	
1	General	Introduction to histology
		Cell - basic unit of life: Prokaryotic & Eukaryotic cell Structure of Eukaryotic cell, cell organelles
		Epithelial tissue – introduction, classification, details of each type
2	Male reproductive system	Histology of Testes + anatomy of sperm
		Histology of Epididymis
		Histology of Vas deferens, seminal vesicle
		Histology of Prostate
3	Female reproductive system	Histology of ovary
		Histology of Fallopian tube
		Histology of uterus
		Histology of mammary gland
		Histology of placenta
4	Urinary system	Histology of urinary bladder
5	Endocrines	Histology of pituitary
		Histology of thyroid
		Histology of suprarenal

Basics of General Physiology

Clinical	
1.	General Physical Examination
2.	Clinical Examination of Cardio Vascular System
3.	Examination of Arterial / Radial Pulse
4.	Determination of the Arterial Blood Pressure

Paper-VI - YOGA THERAPY

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Yoga Therapy - Theory**
Course Code	**BSC0623106**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO 1 Maintaining one's health

CO 2 Following a specific routine module for general health

Introduction to Yoga

(a) Introduction to Yoga
(b) Principles of Yoga

Patanjali

(a) History of Yoga
(b) Yoga in Ancient and Modern India

Folds of Yoga

(1) Types & Forms of Yoga
(2) Asanas & its physiological effects

Yogic Science

(a) Scientific background of Yoga
(b) Yoga in modern world

Advantages of Yoga

(1) Physiological Effects of Yoga
(2) Therapeutic Uses of Yoga

Paper-VII - Basic Computers

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Basic Computers - Theory**
Course Code	**BSC0623107**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO 1 To obtain the basic knowledge on computer, devices used in computers.

CO 2 To know the uses of computers like MS office, Power point Presentations, Excel documents

CO 3 To know about uses of internet, its advantages in regular updating the knowledge in Occupational therapy profession

Introduction to computer:

A. Introduction, characteristics of computer, block diagram of computer, generations of computer, computer languages.

Input output devices:

A. Input devices(keyboard, point and draw devices, data scanning devices, digitizer, electronic card reader, voice recognition devices, vision-input devices),output devices(monitors, pointers, plotters, screen image projector, voice response systems).

Processor and memory:

A. The Central Processing Unit (CPU), main memory.

Storage Devices:

A. Sequential and direct access devices, magnetic tape, magnetic disk, optical disk, mass storage devices.

Introduction of windows:

A. History, features, desktop, taskbar, icons on the desktop, operation with folder, creating shortcuts, operation with windows (opening, closing, moving, resizing, minimizing and maximizing, etc.).

Introduction to MS-Word:

A. introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text, saving the document, spell checking, printing the document file, creating and editing of table, mail merge.

A. Introduction, about worksheet, entering information, saving workbooks and formatting, printing the worksheet, creating graphs.

Introduction to power-point:

A. Introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.

Introduction of Operating System:

A. Introduction, operating system concepts, types of operating system.

Computer networks:

B. Introduction, types of network (LAN, MAN, WAN, Internet, Intranet), network topologies (star, ring, bus, mesh, tree, hybrid), components of network.

Internet and its Applications:

A. Definition, brief history, basic services (E-Mail, File Transfer Protocol, telnet, the World Wide Web (WWW)), www browsers, use of the internet. Application of Computers in clinical settings.

Paper-VIII– ENGLISH

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**English - Theory**
Course Code	**BSC0623108**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO 1	Apply Basics of Grammar and Writing Skills
CO 2	Apply and communicate ideas orally and in writing with a high level of proficiency
CO 3	Use appropriate expressions in varied situations and topics of interest

CO 4	Demonstrate independence in using basic language structure in oral and written
CO 5	Apply correct usage of English grammar in writing and speaking
CO 6	Speak in English both in terms of fluency and comprehensibility

INTRODUCTION

History of the language
Regional distribution
Variation in dialect and accent

PHONOLOGY

Consonants and vowels
Phonetics
Stress, rhythm and intonation
Regional variation

GRAMMAR

Noun, Pronoun
Verb, Tense
Adjuncts
Adjectives

SYNTAX

Clause syntax
Auxiliary verbs
Vocabulary
Word formation
Pronunciation

PRESENTATION

Oral presentation & Panel discussion
Interview reparation
Clarity and specificity

B. Sc Clinical Embryology

Syllabus

1st year

Semester - II

Theory & Practical Paper:

Paper-I - Basics of Biochemistry & molecular biology

Paper – II – Basics of Genetics

Paper – III – Basics of General Pathology

Paper-IV- Basics of Haematology

Paper-I: Basics of Biochemistry & molecular biology.

1	Biochemical perspective to medicine
2	Subcellular organelles and cell membranes
3	General chemistry – chemistry of carbohydrates, lipids, proteins
4	Nucleic acid – nucleotides, structure of DNA & RNA
5	Vitamins (general, classification) and Minerals
6	Water & electrolyte balance and body fluids
7	Acid base balance and pH
8	Free radicals and antioxidants
9	Detoxification and biotransformation of xenobiotics
10	Nutrition and environmental pollution
11	Bioenergetics
12	Concept of biophysics
13	Over view of Metabolism – metabolism of carbohydrates, lipids, proteins
14	Enzymology

15	Hormones
16	Haemoglobin and plasma proteins
17	Immunoglobulins
18	Lipoproteins
19	Molecular biology – nucleotides, DNA, transcription and translation, inheritance, mutations, cell cycle and control of gene expression, r-DNA technology and Gene Therapy, molecular diagnostic
20	Advance biochemistry: mechanisms of action of hormones, immunochemistry, biochemistry of AIDS and cancer, biochemistry Aging, Clinical laboratory practices, application of isotopes in medicine
21	Centrifugation – Basic Principle of Centrifugation, Instrumentation of Ultracentrifuge (Preparative, Analytical), Factors affecting Sedimentation velocity, Standard Sedimentation Coefficient, Centrifugation of associating systems, Rate-Zonal centrifugation, sedimentation equilibrium Centrifugation.

Paper – II – Basics of Genetics

- Mendelian inheritance – Autosomal Recessive and Autosomal Dominant
- Atypical Mendelian inheritance – Mitochondrial Inheritance, X – Linked inheritance
- Molecular Basis of Inheritance – transcription, translation & gene expression
- Primer, Probe
- Cell cycle – Mitosis and Meiosis
- Chromosomes, autosomes and sex chromosomes
- Mutations – Dynamic mutations, Point Mutations, Somatic mutations
- Chromosome Abnormalities
- Genomic Imprinting
- Genetic Counselling

Paper-III: Basics of General Pathology

1. Introduction to pathology: terminologies, normal cell structure, cellular function, etiology and pathogenesis of disease
2. Cell injury: Definition, types, causes degeneration, necrosis, apoptosis, gangrene, pathological calcification
3. Inflammation: Definition, causes, type and features
    - Acute inflammation
        - Vascular response
        - Cellular response

        - Chemical mediators
        - Inflammatory cells
        - Fate
    - Chronic inflammation
    - Granulomatous inflammation
4. Healing:
    - Regeneration & repair
    - Healing by primary and secondary intention
    - Factors influencing healing process
    - Complications
5. Derangements of body fluid
    - Oedema pathogenesis
    - Different types
6. Disorders of circulation
    - Hyperoemias
    - Shock
7. Immunological mechanisms in disease
    - Humural and cellular immunity
    - Hypersensitivity and auto immunity
8. Adaptive disorders of growth
    - Atrophy &hypertrophy, hyperplasia, metaplasia and dysplasia

Paper-IV- Basics of Haematology

Hematology

- Anemia – definition, classification, lab diagnostic
  - Iron deficiency anemia
  - Megaloblastic anemia, thalassemia, sickle cell anemia, G6PD
- Hemorrhagic disorders
  -Coagulation cascade
  - Coagulation disorders
  - Platelet function
  - Platelet disorders
  - Lab diagnosis of hemorrhagic disorders

Thrombosis

- Definition, pathophysiology
- Formation, complications & fate of a thrombus

Embolism

- Definition, types, effects

Practical

Basics of Biochemistry & molecular biology

1	Introduction to Clinical Biochemistry Laboratory
2	Diffusion, Adsorption & Surface Tension
3	Buffer & pH
4	Urine Analysis
5	Principles of Colorimetry
6	Blood Sugar
7	Urinary Proteins
8	pH Meter
9	Paper Chromatography
10	Paper Electrophoresis
11	Slide Gel Electrophoresis
12	Serum Electrolytes
13	HCG by ELISA
14	DNA- Isolation & Quantification

Basics of General Pathology

1. Introduction to clinical pathology
2. Collection, transport, preservation and pressing of various clinical specimens
3. Urine examination – urine collection method and preservation urine, physical, chemical and microscopic
4. Semen analysis
5. Histopathology – endometrium – PP and SP

Cytology

1. Introduction to exfoliating cytology
2. Chemical and reagents required in cytology
3. PAP staining

Basics diagnostic cytopathology

1. Role & application
2. Branches
3. Exfoliative cytology
4. Techniques in exfoliative cytology
5. Interventional cytologyImprint cytology

Basics of Haematology

Haematology

- Study of microscopes and its uses
- Normal constituents of blood
- Blood collection techniques
- Anticoagulants used in hematology
- Stains used in hematology
- Complete blood counts
- Normal values in hematology
- Peripheral blood film preparation starting, significant of peripheral smears
- Hematology of red cell, leukocytes and platelets
- Hematology blood estimate
- RBC count by hemocytometers
- Erythrocytes indices – MCV, MCH, MCHC
- Total leucocyte count
- Differential leucocyte count
- ESR
- Reticulocyte count
- Blood grouping sickling tests
- Tests for G-6-PD
- Normal hematology – bleeding times, clotting time, prothrombin, activated partial , thromboplastin time, clot retraction time

Paper VI- ENVIRONMENTAL SCIENCE

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Environmental Science -Theory**
Course Code	**BSC0623206**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO 1 Describe ecosystem and its structural and functional aspects, examine interconnectedness among all the biotic and abiotic components of environment and dynamic nature of ecological processes in maintaining equilibrium in nature.

CO 2 List earth's resources, their generation, extraction and impact of human activities on earth's environment, to examine effective management strategies, and critical insight on major sustainability issues.

Course of Study

Unit 1: Multidisciplinary nature of environmental studies a. Definition, scope and importance b. Need for public awareness.

Unit 2: Natural Resources Natural resources and associated problems a. Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. b. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. c. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. d. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer- pesticide problems, water logging, salinity, case studies. e. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies. f. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. g. Role of an individual in conservation of natural resources. h. Equitable use of resources for sustainable lifestyles.

Unit 3: Ecosystems a. Concept of an ecosystem. b. Structure and function of an ecosystem. c. Producers, consumers and decomposers. d. Energy flow in the ecosystem. e. Ecological succession. f. Food chains, food webs and ecological pyramids g. Introduction, types, characteristic features, structure and function of the following ecosystem: - 1. Forest ecosystem 2. Grassland ecosystem 3. Desert ecosystem 4. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) 26/95

Unit 4: Biodiversity and its conservation Introduction – Definition: genetic, species and ecosystem diversity. Bio geographical classification of India Value of biodiversity consumptive use, productive use, social, ethical, aesthetic and option values. Biodiversity at global, National and local levels. India as a mega-diversity nation Hot-sports of biodiversity Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India Conservation of biodiversity: In-situ and Ex-situ Conservation of biodiversity.

Unit 5: Environmental Pollution Definition Cause, effects and control measures of:- Air pollution Water pollution Soil pollution Marine pollution Noise pollution Thermal pollution Nuclear hazards Solid waste Management: Causes, effects and control measures of urban and industrial wastes. Role of an individual in prevention of pollution. Pollution case studies Disaster management: floods, earthquake, cyclone and landslides.

Unit 6: Environment Issues From Unsustainable to Sustainable development Urban problems related to energy Water conservation, rain water harvesting, watershed management Resettlement and rehabilitation of people; its problems and concerns. Case Studies Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies Wasteland reclamation. Consumerism and waste products. Environment Protection Act. 27/95 Air (Prevention and Control of Pollution) Act. Water (Prevention and control of Pollution) Act Wildlife Protection Act Forest Conservation Act Issues involved in Endorcement of environmental legislation. Public awareness

Unit 7: Population and Human rights. Population growth, variation among nations. Population explosion – Family Welfare Programme VII Environment and human health. Human Rights. Value Education. HIV/AIDS. Women and Child Welfare Role of Information Technology in Environment and human health. Case Studies. Unit 8: Field work Visit to a local area to document environmental assets river/ forest/ grassland/ hill/ mountain Visit to a local polluted site-Urban/Rural/Industrial/ Agricultural Study of common plants, insects, birds. Study of simple ecosystems-pond, river, hill slopes, etc.

Paer-VII- Medical Terminology

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Medical Terminology-Theory**
Course Code	**BSC0623207**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per semester	45

Course Learning Outcomes: The student will be able to

CO 1	Learn different types of terms used for various aspects of human body
CO 2	Learn about medicals terms associated to common diseases
CO 3	Administrative and legal medical terminology
CO 4	Medical terms used by different medical practitioners

Course Content

UNIT I

Introduction to medical terminology - Word formation & syntax - Greek alphabet - Greek & Latin prepositional & adverbial prefixes - Singular & plural endings

UNIT II

Human Anatomy and Physiology – Structure & functions of following systems:

a. DigestiveSystem

b. Respiratorysystem

c. Circulatorysystem

d. CentralNervous system

UNIT III

Human Anatomy Physiology– Structure &functions of following systems:

a. MuscularSkeletalsystem

b. Reproductivesystem

c. Excretorysystem

UNIT IV

Commonly used prefixes in medical terminology - Commonly used suffixes in medical

terminology - Commonly used root words in medical terminology.

Common Latin term used in prescription writing - Study of standard abbreviations- Commonly

used medical terms to define different parts of the body

UNIT V

Medical terminology used by Cardiologist - Medical terminology used by Neurologist Medical

terminology used by Nephrologist - Medical terminology used by Gastroenterologist - Medical

terminology used by ENT surgeon - Medical terminology used by Dentist - Medical terminology

used by Orthopedic Ian - Medical terminology used by Gynecologist - Medical terminology used

by Oncologist - Medical terminology used by Dermatologist - Medical terminology used by

Endocrinologist

BOOKS FOR REFERENCE

1. Ross&WilsonAnatomyandPhysiologyinHealthandIllness-TextbookbyAllisonGrant,

AnneWaugh, and Kathleen J. W. Wilson.

2. Fundamentals of Anatomy and Physiology-Textbook by Frederic H. Martini

Paper- VIII INFECTION PREVENTION AND CONTROL

Name of the Program	Bachelor in Clinical Embryology
Name of the Course	Infection Prevention and Control -Theory
Course Code	BSC0623208
Course Description	Elective Theory
Credit per Semester	3 credits
Hours per Semester	45

Course Learning Outcomes: The student will be able to	
CO 1	Learn about Components of infection control practice in healthcare
CO 2	Describe the importance of Care of healthcare workers
CO 3	Explain Measures of environmental management

Course of Study

A. Introduction

B. Components of infection control practice in healthcare

C. Hospital acquired infections

D. Patient placement and transportation of patients

E. Care of healthcare workers

F. Collection and transportation of specimens for investigations

G. Biomedical waste management

H. Cleaning, disinfection and sterilization

I. Measures of environmental management

J. Healthcare associated infection surveillance

B. Sc Clinical Embryology

Syllabus

2nd year

Semester - III

Theory & Practical Paper:

Paper- I: Basics of Andrology and Embryo culture

Paper- II: Basics of Pharmacology and Toxicology

Paper- III: General Microbiology

Paper- IV: Reproductive Endocrinology

Paper- I: Basics of Andrology and Embryo culture

Unit - 1

- Setting up of an IUI Laboratory.
- Equipment and safety: Basic supplies needed in and andrology laboratory.
- Potential biohazards in andrology laboratory, safety procedure.
- Safety Procedure of laboratory Equipments, Precaution while handling liquid nitrogen
- Brief Account of equipments: laminar airflow, various types of microscope, stereo zoom microscope, Incubator used for IUI /dry bath, Centrifuge unit, Refrigerator, Makler chamber, Neuber chamber, sperm concentration
- Quality Control in the andrology laboratory.
- Structure and function of Spermatozoa
- Antisperm antibody test.
- Biomedical waste Management.

Unit – 2

- Historical background of gametes and embryo culture.
- Composition of culture medias.
- Salts and osmolarity, energy source and metabolism.
- amino acids and cellular homeostasis.
- Macromolecules and embryo growth.

- Antioxidant chelator and cellular function.
- pH and buffers, Growth factors.
- HEPES and bicarbonate media
- Culture system: Single step and sequential.
- Embryo co-culture.
- Culture system mineral oil overlay.
- Embryo culture and epigenetics.
- Record keeping
- Embryo culture media effects on offspring

Paper- II: Basics of Pharmacology and Toxicology

- General Pharmacological Principles
  - Introduction, Routes of Drug Administration
  - Pharmacokinetics
  - Pharmacodynamics
  - Aspects of Pharmacotherapy and Clinical Pharmacology
  - Rational Use of Drugs
  - Adverse Drug Reactions and Pharmacovigilance

- Unit 2: Autonomic Nervous System: General Considerations

- Unit 3: Autacoids and Related Drugs
  - Prostaglandins, Leukotrienes and PAF
  - NSAIDs

- Unit 4 : Toxicology

Paper- III: General Microbiology

1. Introduction & history of microbiology
2. Microscopy
3. Bacteria
4. Growth and maintenance of microbes
5. Identification of colony
6. Sterilization and disinfection
7. Culture media
8. Staining methods
9. Collection and transportation of specimen
10. Disposal of laboratory / hospital waste
11. Hand hygiene
12. Nosocomial infection / hospital acquired infections (HAI)
13. Identification of contaminant & various growth in culture media

14. Bacteria genetics
15. Microbiology pathogenicity
16. Antigen antibody reaction

Paper- IV: Reproductive Endocrinology

- Reproductive Endocrinology
    - Hyperprolactinemia and thyroid disorders
        - Hyperprolactinemia
        - Thyroid disorders in infertility
    - Hirsutism
    - Fertility management in primary and secondary amenorrhea
    - Luteal phase defect
    - Anovulatory infertility

- Male infertility
    - Clinical and endocrinological evaluation of the infertile male
    - Microbiology of semen and male genital tract infections
    - Sexual dysfunctions in male infertility
    - Medical management of male infertility
    - Evaluation and treatment of azoospermia
    - Sperm retrieval techniques for assisted reproductive technologies

PRACTICALS

Basics of Andrology and Embryo culture

- Handling of different types of Microscopes.
- Semen Examination; Introduction, sample collection methods, sample collection for diagnostic or research purposes.
- Sterile collection of semen for assisted reproduction and microbiological analysis.
- Sample collection at home, collection of semen by condom
- Safe handling of specimens.
- Initial examination: Liquefaction, semen viscosity, semen appearance, semen volume and pH.
- Ultrastructure of spermatozoa.

- Semen analysis as per WHO criteria.
- Semen examination with Kruger's criteria.
- Initial Microscopic examination: Thorough mixing of the sample, making wet preparation, Cellular elements other than spermatozoa
- Sperm motility: categories of sperm movements, preparation and assessment of sperm motility.
- Sperm Concentration estimation: Types of counting chambers.
- Sperm Morphology assessment: Preparation of sperm smear, assessment of sperm. morphology, staining procedures for sperm morphology.
- Assessment of specific sperm defects.
- Assessment of sperm leukocytes in semen

General Microbiology

1. Operation of microscope and handling of equipments and instruments required for routine lab work
2. Preparation of media
3. Identification of culture media & its uses
4. Demonstration of autoclave & sterilization of media
5. Demonstration of glassware's used in microbiology
6. Preparation of smear
7. Staining: gram & ziehl – nelson staining
8. Identification of instruments
9. Identification of common microbes & fungus
10. Hospital acquired microbiology infection in culture media
11. Preparation of swabs / sterile tubes & bottles

Paper- VI MEDICAL RECORD SCIENCE

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Medical Record Science -Theory**
Course Code	**BSC0623306**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO1 Learn about Medical Record its values, purposes and uses

CO2 Describe the importance of medical ethics and legal aspects of medical record

Course of Study

A. Medical Record - History, Introduction and Definition

B. Medical Record its values, purposes and uses

C. Medical Record contents and components

D. Indexes and registers

E. Medical Record department and its function

F. Numbering and filing of medical records

G. Birth and Death registration

H. Computer – Scanning of medical records

I. Electronic Medical Record

J. Medical ethics and legal aspects of medical record

K. Legal aspects of hospital, patient and doctors

L. Medical Record & Law

Paper – VII HEALTH CARE

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Health Care**
Course Code	**BSC0623307**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO1 Learn about health, nursing & first aid

CO2 Describe the importance general clinical assessments

COURSE OF STUDY

Introduction to Health

1. Definition of Health, Determinants of Health, Health Indicators of India, Health Team Concept.
2. National Health Policy
3. National Health Programmes (Briefly Objectives and scope) Population of India and Family welfare programme in India

Introduction to Nursing

a) What is Nursing? Nursing principles. Inter-Personnel relationships. Bandaging: Basic turns; Bandaging extremities; Triangular Bandages and their application.
b) Nursing Position, Bed making, prone, lateral, dorsal, dorsal re-cumbent, Fowler's positions, comfort measures, Aids and rest and sleep.
c) Lifting and Transporting Patients: Lifting patients up in the bed. Transferring from bed

to wheel chair. Transferring from bed to stretcher.

d) Bed Side Management: Giving and taking Bed pan, Urinal: Observation of stools, urine. Observation of sputum, understand use and care of catheters, enema giving.
e) Methods of Giving Nourishment: Feeding, Tube feeding, drips, transfusion Care of Rubber Goods
f) Recording of body temperature, respiration and pulse, Simple aseptic technique, sterilization and disinfection. Surgical Dressing: Observation of dressing procedures

First Aid:

Syllabus as for Certificate Course of Red Cross Society of St. John's Ambulance Brigade.

Paper- VIII - DISASTER MANAGEMENT

Name of the Program	Bachelor of Clinical Embryology
Name of the Course	Disaster Management -Theory
Course Code	BSC0623308
Course Description	Elective Theory
Credit per Semester	3 credits
Hours per Semester	45

Course Learning Outcomes: The student will be able to	
CO 1	To acquaint the students with disasters and disaster management.
CO 2	To provide an overview of disasters and disaster management in India.

Course of Study

Introduction to Disasters

A. Concepts, and definitions (Disaster, Hazard, Vulnerability, Resilience, Risks)
B. Disasters
C. Classification Causes, Impacts (including social, economic, political, environmental, health, psycho social, etc.)
D. Different impacts – in terms of caste, class, gender, age, location, disability Global trends in disasters. urban disasters, pandemics, complex emergencies, Climate Change

Approaches to Disaster Risk reduction

A. Disaster cycle-its analysis, Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Structural – non structural ensures, roles and responsibilities of-community, Panchayati Raj Institutions/Urban Local Bodies (PRIs/ULBs), states, Centre, and other stake – holders.

Inter – relationship between Disasters and Development

A. Factors affecting Vulnerabilities, different impacts, impact of Development projects such as dams, embankments, changes in Land-use etc. Climate Change Adaptation. Relevance of indigenous knowledge, appropriate technology and local resources

Disaster Risk Management in India

A. Hazard and Vulnerability profile of India Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management institutional Arrangements (Mitigation, Response and Preparedness, DM Act and Policy, Other related policies, plans, programmed and legislation).

Project Work: (Field Work, Case Studies)

A. The project /fieldwork is meant for students to understand vulnerabilities and to work on reducing disaster risks and to build a culture of safety. Projects must be conceived creatively based on the geographic location and hazard profile of the region where the college is located.

B. Sc Clinical Embryology

Syllabus

2nd year

Semester - IV

Theory & Practical Paper:

Paper – I: Reproductive pathology

Paper – II: Reproductive Pharmacology

Paper - III: Basics of ART Lab

Paper –IV: Embryology in ART

<u>Paper – I: Reproductive pathology</u>

1) General overview
   - Patient selection and management
   - Immunology in infertility
   - Environment and infertility
   - Declining fertility
2) Female Factor infertility
   - Evaluation of infertile female patients
   - Uterine and cervical factors in infertility
   - The role of the uterus in reproduction
   - Tubal factor of infertility and assisted reproduction
   - Infections and infertility
   - Genital tuberculosis and infertility

- Assessment of ovarian reserve
- Endometriosis in infertility
- Unexplained infertility
- Fibroid & Infertility
- Obesity & Infertility
- Hyperprolactinemia and thyroid disorders
- Hyperprolactinemia
- Thyroid disorders in infertility
- Anovulatory infertility
- Luteal phase defect

3) Male factor infertility
   - Etiology and pathophysiology of male infertility
   - Clinical and endocrinological evaluation of the infertile male
   - Microbiology of semen and male genital tract infections
   - Sexual dysfunctions in male infertility
   - Medical management of male infertility
   - Evaluation and treatment of azoospermia
   - Varicocele & infertility

Paper -II: Reproductive Pharmacology

Unit 1:

- Hormones and Related Drugs
  - Gonadotropins and their preparations (e.g. HCG)
  - Gonadotropin Releasing Hormone, GnRH Agonists and Antagonists
  - Prolactin
  - Thyroid hormones
  - Estrogens, Progestins
  - Antiestrogens and Selective Estrogen Receptor Modulators (SERMs)
  - Selective Estrogen Receptor Modulators (SERMs)
  - Antiprogestin
  - Uterine Stimulants (Oxytocics, Abortifacients)
  - Uterine Relaxants (Tocolytics)

- OI Drugs
- OI protocols
- Risk of COH

Paper - III: Basics of ART Lab

1. Introduction of IVF LAB
2. IVF Lab setup
3. Air quality in IVF LAB
4. Details of lab setup of cryopreservation

5. Designing of IVF lab & its location in clinic
6. Equipments used in IVF lab & consumables – centrifuge machine, incubator, laminar flow, micromanipulator etc.
7. Quality control & regular audit of IVF Lab
8. Sperm chromatin assessment
9. Semen collection in ejaculatory failure
10. Sperm preparation in assisted conception: Laboratory techniques
11. Semen banking

Paper –IV: Embryology in ART

- Biomedical background of Bourn Hall Clinic.
- The Bourn Hall story.
- History of in vitro fertilization
- Basics of In vitro fertilization
- Analysis of fertilization
- Oocyte retrieval and selection
- Ultrastructure of oocyte
- Preparation and evaluation of oocyte for ICSI
- oocyte grading
- Morphological assessment of oocyte and embryo
- Blastocyst culture and transfer
- Advantages and disadvantages of embryo transfer on day 2, day 3, and blastocyst stage
- Embryo transfer techniques

Practical

Reproductive Pharmacology

1. Observation of OPD procedures-
2. Hysterosalpingography (HSG)
3. Saline infusion sonography (SIS)
4. Pelvic scan
5. Techniques of pap smear
6. Techniques of cryo cauterization
7. Techniques of endometrial biopsy
8. Techniques of PRP instillation
9. Observation of hystro-laparoscopy procedure
10. Viva Voca

Basics of ART Lab

1. Handling of different types of Microscopes.
2. Handling of Micropipettes, glass Pipettes and Flex pipettes
3. Sperm preparation techniques: Introduction, Choice of method, Efficiency of sperm separation from seminal plasma and infections organism, simple washing procedure, Direct swim-up, Diffuse density gradient
4. Preparation of HIV/HBsAg infected semen sample.
5. Sperm vitality test: using eosin- nigrosin, eosin one and hypo-osmotic swelling (HOS) test.
6. Biomedical assay for accessory sex organ function: measurement of fructose and zinc in seminal plasma.
7. Semen cryopreservation protocol: standard procedure, modified freezing protocols for poor semen samples, label in go straws and record.
8. Sperm survival test
9. IUI (Intrauterine insemination)
10. Conventional IVF

Paper- VI- COMMUNITY HEALTH

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Community Health -Theory**
Course Code	**BSC0623406**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO 1 To make understanding easier about community health in various perspectives .

CO 2 To work for overall prevention of disease.

CO 3 Evaluate the scope of rehabilitation.

Course of study

INTRODUCTION

A. Definition, concept & scope of community Health
B. Historical development of Community health - Pre-Independence - Post Independence

Health planning and policies

A. National health planning in India - Five Year Plans
B. Various committees and commissions on health and family welfare, Central council for health and family welfare
C. (CCH and FW)
D. NRHM, NUHM, MDG, SDG
E. National Health Policy (1983, 2002)
F. National population policy
G. Health problems in India
H. Recent health policies

National health and family welfare programmes

A. National ARI Programme
B. Revised National Tuberculosis(RNTCP)
C. National Anti-Malaria Programme
D. National Leprosy eradication Programme
E. National AIDS control programme
F. STD control programme
G. Iodine deficiency disorder programme
H. Expanded programme on immunization
I. National family welfare programme historical development, organization,
J. administration, Research, constraints.
K. National cancer control Programme
L. National Nutritional Anemia prophylaxis programme
M. ICDS programme
N. National mental health programme
O. Health schemes

Health Agencies

A. International - WHO,UNFPA, UNDP, World Bank, FAO,UNICEF, DANIDA, European Commission (EC). Red Cross, USAID, UNESCO, Colombo Plan, ILO, CARE etc.
B. National - Indian Red Cross, Indian Council for child welfare, Family Planning Association of India (FPAI), Tuberculosis Association of India, Hindu Kusht Nivaran Sangh, Central Social Welfare Board, All India Women's conference, Blind Association of India etc.

Community health approaches & concepts

A. Epidemiological approach
B. Problem solving approach
C. Evidence based approach

D. Empowering people to care for themselves Concepts of Primary Health
E. Care: - Equitable distribution- Community Participation
F. Focus on prevention- Use of appropriate technology- Multi-sectoral approach
G. Roles and responsibilities: Family health services
H. Information Education Communication (IEC) - Management information (MIS)- Maintenance of Records &Reports- Training and supervision of various categories of health

Paper- VII - FIRST AID AND EMERGENCY HELP

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**First Aid and Emergency Help -Theory**
Course Code	**BSC0623407**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

CO 1 To Know The importance of First aid in Occupational therapy and utilize the nursing process to provide individualized care to clients and significant support persons throughout the lifespan

CO 2 To Know the principles of client care management in the delegation of basic nursing procedures to qualified assistive personnel.

Course of study

A. Basic first aid and techniques

B. Respiratory system and breathing

C. Heart, blood circulation and shock

D. Wounds and injuries

E. Injuires to bones, joints and muscles

F. Nervous system and unconsciousness

G. Skin, burns, heat exhaustion, fever and hypothermia

H. Poisoning

I. Bites and stings

J. Senses, foreign bodies in eye, ear, nose or skin and swallowed foreign objects

Paper-VIII-Medical Ethics & Law in Public Health

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	Medical Ethics & Law in Public Health
Course Code	**BSC0623408**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Outcomes:

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

	CO Statement
CO 1	Legal and ethical challenges in healthcare.
CO2	Students explore the legal, ethical and moral issues in healthcare professionals. Identify issues related to potential legal liability in the workplace.
CO3	To introduce students to the discipline of public health.
CO4	To give an overview of the methods of prevention and health promotion.
CO5	To understand the determinants and measures of disease and health related states.
CO6	To understand the status of health and disease at global and national levels

UNIT-I

Medical ethics – Definition – Goal – Scope

Introduction to Code of conduct.

UNIT-II

Basic principles of medical ethics – Confidentiality

Malpractice and negligence – Rational and irrational drug therapy

UNIT-III

Autonomy and informed consent – Right of patients

Care of the terminally ill – Euthanasia

Organ transplantation

UNIT-IV

Medico legal aspects of medical records _ Medico legal case and type – Records and documents related to MLC – ownership of medical records – Confidentiality Privilege communication – Release of medical information – Unauthorized disclosure – retention of medical records – other various aspects.

Professional Indemnity insurance policy.

Development of standardized protocol to avoid near miss or sentinel events

Obtaining and informed consent.

B. Sc Clinical Embryology

Syllabus

3rd year

Semester - V

Theory & Practical Paper:

Paper - I: Principal of ovarian stimulation and IUI

Paper – II: Assisted Reproductive Technology

Paper – III: Third Party Reproduction

Paper - IV: Micromanipulation Techniques

Paper - I: Principal of ovarian stimulation and IUI

(A) ovulation induction

- Drugs for controlled ovarian stimulation
- Superovulation strategies in assisted conception
- Agonists in reproductive medicine
- GnRH antagonists
- Monitoring of ovulation induction
- Ovulation triggers and the role of gonadotropins-releasing hormone agonist trigger in assisted reproduction
- Individualized ovarian stimulation
- Mild approaches in assisted reproduction
- Role of LH in ovarian stimulation
- Progesterone in ovarian stimulation
- Understanding the prognostic factors and optimizing in vitro fertilization outcome
- Luteal phase support

(B) Artificial Insemination

- Intrauterine insemination
- Optimizing success in intrauterine insemination

Paper – II: Assisted Reproductive Technology

(A) Assisted reproductive technologies

- Anesthesia and in vitro fertilization
- Oocyte retrieval

- Embryo transfer
- Sperm retrieval technique for ART

(B) Complications of assisted reproductive techniques

- Ovarian hyperstimulation syndrome: clinical aspects
- Ectopic pregnancy
- Iatrogenic multiple pregnancy and assisted reproductive technologies
- Fetal reduction

(C) Miscellaneous

- Batch in vitro fertilization: practical consideration
- Endometrial preparation in frozen thawed embryo transfer
- Outcome of children born through assisted reproductive technology

Paper – III: Third Party Reproduction

- Oocyte and embryo donation
- Sperm donation
- Oocyte sharing program
- Surrogacy
- Challenges faced in surrogacy within the ICMR guidelines
- Adoption
- ART bill
- Surrogacy bill
- ICMR guidelines for ART
- PCPNDT act
- Consent form

Paper - IV: Micromanipulation Techniques

- History of micromanipulation.
- Various kinds of micromanipulation unit.
- Detailed Account of all micro manipulation unit.
- Micro tool preparation equipments.
- Micro tool alignment.
- Brief Account on Poly Vinyl Pyrrolidone (PVP) and hyaluronidase.
- Indication & contraindication for ICSI (physics) .
- Risk of anomalies in ICSI.
- Identification of normal & abnormal sperms.
- Patients counseling.

Practical

Principal of ovarian stimulation and IUI

- Observation of Intrauterine insemination
- Observation of oocyte retrieval
- Observation of embryo transfer technique
- IVF OT setup
- Instruments used in IVF OT
- Viva Voca

Micromanipulation Techniques

- Preparation of standard operation protocol for all procedures in the IVF laboratory.
- Intra Cytoplasmic Sperm Injection (lCSl) dish preparation.
- Oocyte denudation.
- Oocyte assessment.
- Sperm immobilization with various techniques.
- Intra Cytoplasmic sperm injection
- Short term insemination and long term insemination, fertilization check, observation of fertilized Oocyte till Blastocyst development.
- Cleavage stage embryo grading.
- Blastocyst grading.
- Blastocyst culture advantages and disadvantages.
- Preparation of testicular and epididymal spermatozoa (MESA, PESA, TESE,TESA)
- Oocyte markers of competence. Nuclear maturity, Cytoplasmic maturity, Polar bodies, Zona Pellucida, Cumulus cells.
- Advanced types of sperm preparation for ART.

Paper-VI Quality in Healthcare

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Quality in Healthcare**
Course Code	**BSC0623506**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Outcomes:

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

	CO Statement
CO 1	Learn about various measures to be taken to maintain health care quality
CO2	Learn about various factor affecting health care quality
CO3	Desired quality attributes of a healthcare professionals

Course Content

UNIT I

Fundamentals of Quality Management: Introduction, Objectives, Historical Background, concept of Quality Management, contributions by Quality Management Gurus (Kaoru Ishikawa, Juran's triology, Kaizen, Philip Crosby's principles, Deming, Pareto)

UNIT II

Quality control tools & techniques - Brain storming, Bench marking, Business process reengineering (BPR), statistical process control, fish bone diagram, six sigma concept, poka yoke, Quality Assurance, Continuous quality improvement (CQI), quality circles.

UNIT III

Techniques of Quality Management - Improving Hospital Performance, Patient Participation, Quality Health Care through Patient Satisfaction, conceptual model for assessing quality in health care.

UNIT IV

Organization wide Quality Improvement in Health Care – Introduction, organizing for Quality Assessment, Quality Improvement fundamentals, A Quality Improvement model of daily Patient Care.

UNIT V

Assessing Quality Health Care - Attributes of Quality in Health Care, Attributes of a Good

Patient Practitioners Relationship, Patient Satisfaction Survey, and The measurement of Quality in health care.

UNIT VI

Total quality management - The implementation of Total Quality, Planning Quality, organizing Quality, Evaluating Quality, Transforming organizations to a Total Quality Philosophy and Culture. Outcome Management and Total Quality - Background of Quality outcome, what is quality outcome and what is outcome Management?

UNIT VII

Concepts of Accreditation in Hospitals: NABH, NABL, JCI - ISO 9000 Quality Management, Effects and Benefits of ISO 9000 management System & clauses. Audits for quality assessment & Management-Antibiotic audit, Infection control Review & Tissue Committee review.

Referred Books:

1. Raandi Schmidt J.Trumboand R. Jonson, Quality in Health Care Sector –

ASQC Quality Press.

2. Quality Improvement in Health Care, 2nd Ed, Nelson Thrones

Paper-VII Therapeutic Yoga

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Therapeutic Yoga**
Course Code	**BSC0623507**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Outcomes:

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

	CO Statement
CO 1	Demonstrate each technique prescribed for a disease
CO2	Learn about working principles behind the techniques prescribed for various diseases
CO3	Precautions to be taken before practicing the special techniques
CO4	Find another alternative practice if the practice is not found to be effective

Therapeutic Yoga – Disease Wise and Evidence based **Yogic Practice**- Management of the disease through suitable yogic practices - Yogic diet, Asanas, Shatkarmas; Pranayama; Meditation; Notional corrections through yogic scriptures and counseling; Yama and Niyama; Stress(emotions management) Life style prescriptions - Moderation in Ahara, Vihara, Achara and Vichara.

 Integrated approach of Yoga Therapy in the treatment of diseases Systemicanatomy, physiology of the related System; Patho physiology, Stress and disease; Medical Management; Mechanism of imbalances at psychological, pranic, physical, endocrinal, autonomic levels; psyhocneuro immunological aspect of the disease model; Disease specific parameter; what, why and how of each Yogic practice; Prevention. Evidence research done on the particular disease.

 General Parameters and questionnaires to evaluate Health status - GHQ, Prakriti, Guna, PSS, STAI.

UNIT-II Integrated Approach of Yoga therapy for the following Common Ailments:

 Respiratory disorders - Allergic Rhinitis & Sinusitis: COPD: Chronic Bronchitis, Tuberculosis: Evidence research done on the particular disease

 Cardiovascular disorders: Hypertension:, Atherosclerosis / Coronary artery disease: Ischemic Heart disease – Angina pectoris / Myocardial Infarction/ Post CABG rehabilitation: Congestive Cardiac failure, Cardiac asthma.

 Endocrinal and Metabolic Disorder - Diabetes Mellitus (I&II); Hypo and Hyper-Thyroidism; Obesity: Metabolic Syndrome

 Obstetrics and Gynecological Disorders, Menstrual disorders: Dysmenorrhea, Oligomenorrhea, Menorrhagia: Premenstrual Syndrome: Menopause and peri-menopausal syndrome: Yoga for Pregnancy and Childbirth: Complicated pregnancies: PIH, Gestational DM, Ante-natal care, Post-natal care; PCOS

Gastrointestinal disorders APD: Gastritis – Acute & Chronic, Dyspepsia, Peptic Ulcers, Constipation, Diarrhoea, Irritable Bowel Syndrome: Definition, Etiopathogenesis, Inflammatory Bowel Disease, Ulcerative colitis

UNIT-III Cancer: types, clinical features, Side effects of Chemotherapy, radiotherapy

 Musculo-Skeletal Disorders: Back Pain: Lumbar Spondylosis, Intervertebral disc prolapse (IVDP), Spondylolisthesis, Spondylitis, Psychogenic- Lumbago, Neck pain: Cervical Spondylosis, radiculopathy, Functional neck pain, All forms of Arthritis: Rheumatoid Arthritis, Osteoarthritis

 Neurological Disorders: Headaches: Migraine, Tension headache; Cerebro vascular accidents: Epilepsy; pain; Autonomic dysfunctions; Parkinson's disease

 Psychiatric disorders: Psychiatric disorders: Neurosis, Psychosis: Neurosis: Anxiety disorders: Generalized anxiety disorder, Panic Anxiety, Obsessive CompulsiveDisorder, Phobias: Depression: Dysthymia, Major depression, Psychosis: Schizophrenia, Bipolar affective disorder.

Referred Books:

 Dr Shirley Telles & Dr H R Nagendra, A Glimpse into the human body, Swami Vivekananda Yoga Prakashana, Bangalore, 2002

 Ailments series, Swami Vivekananda Yoga Prakashana, Bangalore, 2002

Paper-VIII Clinical Psychology

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	Clinical Psychology
Course Code	**BSC0623508**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

	CO Statement
CO 1	Learn about Psychological aspects of human behaviour
CO2	Learn about psychological management in various health problems
CO3	Learn about psychological factors affecting health and disease

UNIT I

Introduction: Definition of Psychology; Domains of behaviour; Nature; Goals of Psychology;

History of Psychology: Different schools of Psychology; Branches of Psychology; Application

of Psychology; Role of a psychologist in society

UNIT II

Sensation and Perception: Sensation, Nature of perception, Attention and Perception,

Perceptual organization.

UNIT III

Learning, Remembering and Thinking: Concept of learning: Definition, Nature of Learning,

Verbal learning: Nature, Materials and Experimental methods, Procedures of learning;

Conditioning: Classical conditioning and Operant conditioning; Trial and Error, Insightful

Learning, Learning Curve; Basic principles of learning, Acquisition delayed conditioning, trace conditioning, Shaping, role of Reinforcement, schedule of reinforcement.

UNIT IV

Remembering and Forgetting: Nature of Remembering: Retention and Forgetting: STM and

LTM, Basic nature, Methods of measuring Short Term Memory and Long Term Memory;

Retention, Forgetting and factors involved in forgetting, Factors of forgetting- Level of original

learning, interpolated activity, testing situation, Experimental procedure of Retroactive

Inhibition. Thinking: Nature of Thinking, Problem Solving: Methods and Materials.

UNIT V

Transfer of Learning: Transfer of learning: Nature & Types of transfer, Design of Transfer

Experiment.

UNIT VI

Emotion:Definition; Nature; Types; Physiological responses-Arousal and emotional intensity;

Theories of Emotion – James Lange Theory, Cannon Bard Theory and Schacter Singer Theory,

Richard Lazarus' theory; Communication of Emotion – Emotional expression ,Characteristics,

Innate Expression of Emotions, Social Aspects of Emotional Expressions, Biology of emotion.

UNIT VII

Motivation: Definition; Motivation Cycle; Nature of Motivation, Need, Drive and Incentive, Primary and Secondary Motives; Types of motivation-Physiological Motivation – Hunger, Thirst, Psychological motivation – Achievement, Affiliation, Power, Parenting; Theories of Motivation – Need theories ;Drive Reduction Theories; Current status of motivational Psychology

UNIT VIII

I: Personality:Definition; Determinants; Approaches –Dispositional approaches – Type approach

– Hippocrates, Sheldon, Kretchmer, Jung's typology, Trait theory Allport, Catell, Eysenck & BIG Five; Psychoanalytic –Freud; Assessment of personality – Objective, Subjective and Projective.

UNIT IX

Intelligence: Nature of Intelligence, Nature vs Nurture, Theories of intelligence; Individual Differences in Intelligence, Intellectual disability and Gifted children; Measurement of intelligence: Verbal, Non-verbal, Individual and Group Tests.

UNIT X

Language: Definition, stages in the development of language; Theories of language

References:

1. Fernald (2018). Munn'sIntroduction to Psychology (5/Ed.) AITBS Publishers, India

2. Kendler, H. H. Basic psychology (2nd ed.). New York: AppletonCentury-Crofts, 1968.

3. Munn, N., Fernald, L. D., Jr., & Fernald, P. S. lntroduction to psychology (3rd ed.). Boston: Houghton-Mifflin. 1972.

B. Sc Clinical Embryology

Syllabus

3rd year

Semester - VI

Theory & Practical Paper:

Paper - I: Cryopreservation and Reproductive Genetics

Paper - II: Recent advances in ART

Paper - III: Ethical & legal aspects of ART

Paper - IV: Research methodology & biostatistics

Paper - I: Cryopreservation and Reproductive Genetics

UNIT - I

- History of gamete cryopreservation.
- Oocyte vitrification
- Sperm cryopreservation
- Sperm vitrification
- Detailed Account of cryoprotectant for slow freezing and vitrification method.
- Advantages and disadvantages of slow freezing and Vitrification method
- Trouble shooting in vitrification.
- Various equipments used for slow freezing.
- Thawing of gametes and embryo

UNIT - II

- Role of genetics in infertility .
- Molecular and cellular biology.
- Chromosomal and genetic analysis in IVF
- Genetic techniques.
- FISH.
- Embryo biopsies

- Karyotyping.
- Role of genetics in OATS
- Genes and RPL (Recurrent Pregnancy Losses)

Paper - II: Recent advances in ART

(A) Dilemmas in assisted reproductive technologies

- Recurrent implantation failure
- Empty follicle syndrome
- Elective single embryo transfer
- Role of aneuploidy screening in preimplantation embryos
- Epigenetics, imprinting errors and IVF
- Embryo biopsy for preimplantation genetic diagnosis
- In vitro maturation of oocytes: a practical approach
- Ovarian tissue cryopreservation

(B) Advances in assisted reproductive technologies

- Assisted hatching
- Embryo biopsy for preimplantation genetic diagnosis
- In vitro maturation of oocytes: a practical approach
- Ovarian tissue cryopreservation
- Time-lapse video for assessing the embryos
- Polarization microscopy and its clinical applications
- OMICS
- IMSI and its clinical significance
- Microfluidics in assisted reproductive technology
- Fertility preservation in Male & Female patients

(C) Future clinical application

- Endometrial stem cells and reproduction

Paper - III: Ethical& legal aspects of ART

Unit- I

a) The Ethical, legal and social issue of modern assisted reproductive technology treatment
b) Certification and accreditation: relevance to an IVF Center
c) Accreditation of an assisted reproductive technology laboratory
d) ART Guidelines
e) ART Bill and Surrogacy Bill
f) Good lab practices

Unit - II

a) Counseling in infertility and with assisted reproductive technologies
b) Psychology of infertility
c) Individual counselling and psychotherapy
d) Donor gametes counselling
e) Donor embryo counselling
f) Greif Counselling

Paper - IV: Research methodology & biostatistics

- Introduction to health research
- Descriptive study
- Analytical study
- Experimental study trials
- Clinical trials / clinical research
- Randomized control trials
- Review of literature
- Formulating research question, hypothesis and objectives – I
- Formulating research question, hypothesis and objectives – II
- Measurement of disease frequency
- Validity of studies
- Qualitative research method
- Measurement of study variables
- Sampling methods
- Calculating sample size and power
- Selection of study population / study plan
- Test of significance
- Writing discussion
- Bibliography
- Protocol for research studies
- Publication ethics
- Informed consent and procedure

Practical

Cryopreservation and Reproductive Genetics

- Dish preparation for freezing/vitrification.
- Dish preparation for thawing/warming.
- Oocyte/Sperm vitrification.
- Cleavage stage embryo vitrification.
- Blastocyst collapse and vitrification.
- Embryo biopsy for preimplantation genetic diagnosis
- PGD/PGS

Research methodology & biostatistics

- Critical analysis of a literature paper

Paper-VII-BASIC LIFE SUPPORT

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	Basic Life Support
Course Code	**BSC0623607**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to

	CO Statement
CO 1	Recognize cardiac arrest
CO2	Provide effective chest compressions
CO3	Provide artificial ventilation
CO 4	Use AED
CO5	Provide first aid for common medical emergencies like trauma
CO6	To teach communication skills and team dynamics

Course Content

1. Introduction

2. Basic life support for adults

3. Basic life support for infants and children

4. Defibrillator

5. Respiratory arrest

6. Management of choking in adults, infants & children

7. Team dynamics

8. Summary of CPR guidelines

Paper-VIII -Organizational Behavior

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Organizational Behaviour**
Course Code	**BSC0623608**
Course Description	**Elective**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Content

UNIT I

INTRODUCTION:

Concept of Organizational Behavior (OB): Disciplines that contribute to OB; Opportunities for

OB (Globalization, Indian workforce diversity, customer service, innovation and change,

networked organizations, work-life balance, people skills, positive work environment, ethies)

UNIT II

INDIVIDUAL BEHAVIOUR:

1. Learning, attitude and Job satisfaction: Concept of learning, conditioning, shaping and reinforcement. Concept of attitude, components, behavior and attitude. Job satisfaction: causation; impact of satisfied employees on workplace.

2. Motivation : Concept; Theories (Hierarchy of needs, X and Y, Two factor, McClelland, Goal setting, Self-efficacy, Equity theory); Personality and Values : Concept of personality; Myers-Briggs Type

Indicator (MBTI); Big Five model. Relevance of values; Indian values; Linking personality and values to the workplace (person-job fit, person organization fit)

3. Perception, Decision Making and Emotions : Perception and Judgements; Factors; Linking perception to individual decision making: Decision making in organizations, Ethics in decision making. Emotional labour; Emotional Intelligence.

UNIT III

GROUP BEHAVIOUR:

2. Groups and Work Teams:Concept: Five Stage model of group development; Group think and shift; Indian perspective on group norms. Group and teams; Types of teams;

3. Leadership: Concept; Trait theories; Behavioral theories (Ohio and Michigan studies);Contingency theories (Fiedler, Hersey and Blanchard, Path-Goal);

UNIT IV

ORGANISATIONAL CULTURE: Concept of culture; Impact (functions and liability); Creating and sustaining culture: Employees and culture: Creating positive and ethical cultures,

UNIT V

ORGANISATIONAL CHANGE, CONFLICT AND POWER: Forces of change; Planned change; Resistance; Approaches (Lewin's model, Organizational development); Concept of conflict; Traditional view and interactionists view of conflict; Conflict process; Functional/ Dysfunctional. Introduction to power and **politics.**

Paper- VI- CLINICAL NUTRITION

Name of the Program	**Bachelor of Clinical Embryology**
Name of the Course	**Clinical Nutrition- Theory**
Course Code	**BSC0623606**
Course Description	**Elective Theory**
Credit per Semester	**3 credits**
Hours per Semester	**45**

Course Learning Outcomes: The student will be able to	
CO 1	Become familiar about the nutritive values of food.
CO 2	Explain about the food sources from which we obtain vitamins.
CO 3	Become familiar with various compositions of food.
CO 4	Well versed with digestion at each stages of digestive system.
CO 5	Become familiar with different cooking methodologies.
CO 6	Know and explain about food preparations by food manufacturer.
CO 7	Explain thoroughly about the advantages and disadvantages of various convenience foods

Course of Study

SOURCES OF FOOD

(1) Nutritive value of foods,
(2) Food Sources from which key vitamins are derived

DIGESTIVE SYSTEM

(1) Digestion and absorption –Digestion at each stage of the digestive system
(2) Dietary guidelines- Factors affecting food requirements. Planning and serving of family meals. Meals for all ages and occupations.

COMPOSITION OF FOOD

Composition and value of the main foods in the diet - Milk, meat, fish, cheese, eggs, margarine and butter cereals (wheat, rice, maize, millets, oats) fruits and vegetables

PROCESSING OF FOOD

(1) Cooking of food -Transfer of heat by conduction, convection and radiation.
(2) Principles involved in the different methods of cooking – boiling, stewing, grilling, baking, roasting, frying, steaming, pressure cooking, cooking in a microwave oven.

FOOD PREPARATION

(1) Convenience foods- Foods partly or totally prepared by a food manufacturer – dehydrated, tinned, frozen, ready to eat. Intelligent use of these foods.
(2) Advantages and disadvantages

Method of Training:
The candidates shall have rotatory posting in respective departments of medical college / IVF OT/ Embryology lab. Attend all the Theory and Practical Classes regularly.

Seminars & Journal Review Meetings:
The students should actively participate in departmental seminars
and journal reviews.

Periodical Assessment and Progress Report:
The students have to be assessed periodically by conducting written, practical and viva voce examination. The assessment should be based also on participation in seminars, journal review, and performance in the teaching.

The assessment will be done by all the recognized faculty of department and the progress records be maintained by the head of the department.

Books for Study

1. Anatomy : B. D. Chaurasia (All 3 volume), Vishram Singh (All 3 volume)
2. Histology &Embryology :Inderbir Singh
3. Physiology : A.K. Jain (both volume), Sembulingam
4. Biochemistry : Vasudevan, S.K. Gupta
5. Forensic Medicine : Reddy, Gautam vishwas , SVS Rana
6. Pharmacology: KD Triphati
7. PSM : Mahajan
8. Microbiology : Dr. C.P. Baveja& Dr. V. Baveja (Theory), Dr. C. P. Baveja (Practical)
9. Pathology : Dr. Harshmohan
10. A – Z Encyclopedia on Infertility SulochanaGanasheela 2005.
11. A Practical Guide to Setting Up an IVF Lab, Embryo Culture Systems and Running the Unit Alex C Varghese, Peter Sjoblom, K. Jayaprakasan, April 2013.
12. Oogenesis Giovanni Coticchio, David Albertini, Lucia De Santis December 2012.
13. Sperm Chromatin Biological & Clinical Applications in Male Infertility & Assisted Reproduction Nini, Armand; Agarwal, Ashok (Eds.) September2011.
14. Practical Manual of In Vitro Fertilization: Advanced Methods and Novel Devices Nagy, Zsolt Peter; Varghese, Alex C; Agarwal, Ashok (Eds) September2011.
15. Preservation of Human Oocytes Dr. Andrea Borini& Dr. Giovanni Coticchio December 2009.
16. Human Preimplantation Embryo Selection Kay Elder, Jacques Cohen February2008.
17. In Vitro Fertilization: A Practical Approach David K. Gardner February2008.
18. Textbook of Assisted Reproductive Techniques David K. Gardner, Ariel Weissman, Colin M. Howles, ZeevShoham, 4th Edition.
19. A Textbook of in Vitro Fertilization and Assisted Reproduction: the Bourn Hall Guide to Clinical and Laboratory Practice Peter Brindsen 3rd Edition 2004.
20. Quality & Risk Management in the IVF Laboratory David Mortimer February 2008.
21. A Color Atlas for Human Assisted Reproduction: Laboratory & Clinical Insights (Hardcover) Pasquale Patrizio, Michael J Tucker, Vanessa Guelman August 2006.
22. The Developing Human: Clinically Oriented Embryology Keith L. Moore, 7th edition January 2003.
23. Principles and Practice of Assisted Reproductive Technology, Vol. 2, Lab. Aspects of IVF & Andrology, 2nd Edition - Kamini Rao.
24. Infertility Diagnosis, Management & IVF – Dr. Anil Dubey.

MODEL PAPER

B.Sc. Cl. Embryology Semester-I
Code: BSC0623101

B. Sc. Clinical Embryology
Semester-I
Examination Month Year

Paper –I

Anatomy and histology of Male and Female reproductive system
Time: Three Hours
Maximum Marks: 70

Student shall be allowed to take only one supplementary copy along with one main answer book
All the parts of one question should be answered at one place
Different part of one question should not be answered at different places in the answer book.
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Describe the thyroid gland under following heading :-

- Structure.
- Relation.
- Blood supply.

Q2. Describe structure and covering of testis.
Q3. Describe structure and blood supply of prostate.
Q4. Describe the Urinary bladder - structure, blood supply and nerve supply.
Q5. Describe the structure, blood supply, nerve supply, lymphatic drainage, applied anatomy of Mammary gland.
Q6. Describe the structure, blood supply, nerve supply, lymphatic drainage, applied anatomy of Urinary bladder.

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) **(6x5=30)**
Q7. Parts of fallopian tube.
Q8. Functions of cerebellum.
Q9. Parts of male reproductive system.
Q10. Write name of cranial nerves in order.
Q11. Mammary gland – structure and diagram
Q12. Ovary – structure and diagram
Q13. Pituitary – structure
Q.14 Hypothalamus blood supply

MODEL PAPER

B.Sc. Cl. Embryology Semester-I **Short Name**
Code: BSC0623102

B. Sc. Clinical Embryology

Semester – I
Paper – II
Examination Month Year

General and systematic embryology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q.1 Describe oogenesis & spermatogenesis.
Q2. Describe menstrual cycle. Draw a well labeled diagram.
Q3. Development of female reproductive system.
Q4. Fertilization & 1st week of development.
Q5. Second week of development.
Q6. Describe in detail about Development of Urinary system

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) **(6x5=30)**
Q7. Teratogenesis, its causes & various disorders.
Q8. Neural tube development.
Q9. Development of placenta.
Q10. Fate & derivatives of germ cell.
Q11. Notochord development
Q12. Ultrastructure of spermatozoa
Q13. Ultrastructure of oocyte
Q14. Well labeled diagram of female reproductive system

MODEL PAPER

B.Sc. Cl. Embryology Semester-I **Short Name**
Code: BSC0623103

B. Sc. Clinical Embryology

Semester – I
Examination Month Year

Paper - III
Basics of General Physiology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Describe the mechanism of synthesis and functions of thyroid hormone. Add a note on cretinism.
Q2. Enumerate the different phases of menstrual cycle.
Q3. Describe the physiological changes occurring during each phase of menstrual cycle, Draw well labelled diagram.
Q4. Define immunity. Explain the difference between active and passive immunity with example.
Q5. What is erythropoiesis. Mention the stage of erythropoiesis. What are the various factors affecting it.
Q6. Define Landsteiner law. Classify blood group. Add a note on erythroblastosis fetalis.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**
Q7. Receptor mediated endocytosis
Q8. Functions of plasma proteins
Q9. Turner syndrome
Q10. Stages of spermatogenesis
Q11. Difference between active and passive transport
Q12. Rh incompatibility
Q13. Functions of placenta
Q14. Functions of testosterone

MODEL PAPER

B.Sc. Cl. Embryology Semester-I **Short Name**
Code: BSC0623104

B. Sc. Clinical Embryology

Semester – I
Examination Month Year

Paper - IV
Reproductive Physiology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Sperm production & migration.
Q2. Endocrinology of pregnancy.
Q3. Enumerate different phases of menstrual cycle.
Q4. Describe physiological changes during each phase of menstrual cycle. Draw a will labeled diagram.
Q5. Explain the male reproductive system anatomy.
Q6. Explain the process of gametogenesis in male and female.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**
Q7. Endometrial receptivity.
Q8. Immunology of pregnancy.
Q9. Ultra structure of spermatozoa & oocyte.
Q10. Environmental factor effect on male & female reproductive system
Q11. Puberty and Psychological adjustment
Q12. Reproductive ageing
Q13. Various Environmental factor effects on male and female infertility.
Q14. Clinical examination of male reproductive system.

MODEL PAPER

B.Sc. Cl. Embryology Semester-I **Short Name**
Code: BSC0623107

B. Sc. Clinical Embryology

Semester – I
Examination Month Year

Paper - VII
Basic Computer

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Discuss about memory.
Q2. Discuss about input / output devices.
Q3. What to you understand about magnetic ink character recognition (MICR)?
Q4. Optical mark recognition (OMR).
Q5. Bar code reader
Q6. Computer software

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**
Q7. Monitor
Q8. Word processing software.
Q9.. Definition of Machine language.
Q10. Compiler
Q11. Interpreter
Q12. output devices.
Q13. operating system concepts
Q14. CPU

MODEL PAPER

B.Sc. Cl. Embryology Semester-I **Short Name**
Code: BSC0623108

B. Sc. Clinical Embryology

Semester – I
Examination Month Year

Paper - VIII
English

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**)

Q.1 What is oral presentation & panel discussion? Explain its importance? 10
Q.2Enumerate the significance of regional distribution? 10
Q.3 What are the basics of phonetics? 10
Q.4. Explain the history of language? 10
Q.5 Explain the basic rules and parts of grammar along with examples of each? 10
Q.6 Enumerate the significance of pronunciation and word formations? 10

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Variation in dialect and accent
Q.8 Interview reparation
Q.9 Differentiate between noun and pronoun
Q.10 Clause syntax
Q.11 Tense
Q.12 Differentiate between adjuncts and adjectives
Q.13. Auxiliary Verbs

MODEL PAPER

B.Sc. Cl. Embryology Semester-I **Short Name**
Code: BSC0623106

B.Sc. Clinical Embryology

Semester – I
Examination Month Year

Paper - VI
Yoga Therapy
Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Explain in detail about principles of yoga?
Q.2 Mention the significance of yoga in Occupational Therapy?
Q.3 Define asanas and its physiological effects?
Q.4. Describe in detail about the history of yoga?
Q.5 Discuss about physiological effects of yoga?
Q.6 Enumerate the various types and forms of yoga?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Scientific background of yoga
Q.8 Yoga in ancient and modern India
Q.9 Principles of yoga
Q.10 Scientific background of Yoga
Q.11 Yoga
Q.12 Therapeutic uses of Yoga
Q.13 Yoga in modern world

MODEL PAPER

B.Sc. Cl. Embryology Semester-II **Short Name**
Code: BSC0623201

B.Sc. Clinical Embryology

Semester – II
Examination Month Year

Paper - I
Basics of Biochemistry & molecular biology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Explain the steps of Urea Cycle with flow chart
Q2. write the inborn errors of Urea Cycle. Add a note on Ammonia toxicity.
Q3. Define Vitamins. Write the dietary sources, daily requirement, biochemical functions and deficiency disorders of Vitamin A.
Q4. Describe the pathway of TCA cycle/ Glycolysis with the help of flow chart and its energetics.
Q5. Describe the chemistry, biochemical function, sources and deficiency manifestations of vitamin D.
Q6. Describe about the various factor affecting enzyme activity.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Types of buffer.
Q8. Mutation.
Q9. Mechanism of action of Hormones.
Q10. Calcium homeostasis.
Q11. Urea cycle with its regulation
Q12. Regulation of Blood Glucose
Q13. Balance diet and diet plan for obesity
Q14. Significance of HMP Shunt

MODEL PAPER

B.Sc. Cl. Embryology Semester-II **Short Name**
Code: BSC0623202

B. Sc. Clinical Embryology

Semester – II
Examination Month Year

Paper - II
Basics of Genetics

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Describe in detail various stages of meiosis with diagram.
Q2. Describe x linked dominant & x linked. Recessive. Draw a mendelian chart.
Q3. Transcription.
Q4. Translation & gene expression.
Q5. Describe various types of Mutations – Dynamic mutations, Point Mutations, Somatic mutations
Q6. Describe Autosomal Recessive and Autosomal Dominant.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Difference between autosome & sex chromosome.
Q8. Genetic counseling.
Q9. Primer & probe.
Q10. Mitochondrial inheritance.
Q11. Turners syndrome
Q12. X linked dominant disorders
Q13. Structure of DNA
Q14. Genomic Imprinting

MODEL PAPER

B.Sc. Cl. Embryology Semester-II **Short Name**
Code: BSC0623203

B. Sc. Clinical Embryology

Semester – II
Examination Month Year
Paper - III
Basics of General Pathology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Define necrosis and describe the various types of necrosis.

Q2. Discuss semen analysis and testicular morphological changes in male infertility.

Q3. Define inflammation. What are its two main types? Discuss the vascular events involved in acute inflammation. Write differences between exudate and trandudate.

Q4. Define hypersensitivity reactions. Discuss the pathogenesis of different types of hypersensitivity reactions with examples.

Q5. Define Cell injury, its types, causes degeneration, necrosis, apoptosis, gangrene, pathological calcification

Q6. Differentiate between humoral and cellular immunity

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Difference between benign and malignant neoplasm.

Q8. Type I hypersensitivity reaction.

Q9. Lab diagnosis of iron deficiency anemia.

Q10. Septic shock.

Q11. Humural and cellular immunity

Q12. Auto immunity

Q13. Healing by first intention.

Q14. Hypovolemic shock

MODEL PAPER

B.Sc. Cl. Embryology Semester-II **Short Name**
Code: BSC0623204

B. Sc. Clinical Embryology

Semester – II
Examination Month Year

Paper - IV
Basics of Haematology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Describe embolism and its types.
Q2. Describe formation, complications & fate of a thrombus.
Q3. Define and classify anemia write about iron deficiency anemia. Write lab diagnosis of anemia.
Q4. Describe the process of coagulation.
Q5. Lab diagnosis of hemorrhagic disorders
Q6. Write down about various platelets disorders

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**
Q7. Lab diagnosis of iron deficiency anemia.
Q8. Embolism
Q9. Healing
Q10. Edema
Q11. G6PD
Q12. Megaloblastic anemia
Q13. Thalassemia
Q14. sickle cell anemia

MODEL PAPER

B.Sc. Cl. Embryology Semester-II **Short Name**
Code: BSC0623206

B. Sc. Clinical Embryology

Semester – II
Examination Month Year

Paper - VI
Environmental science

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Explain in detail about biodiversity and its conservation?
Q.2 Mention the significance Natural resources?
Q.3 Define ecosystem and discuss its importance?
Q.4. Describe in detail about environment and human health?
Q.5 Discuss Environment Protection Act?
Q.6 Enumerate the various environmental issues?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Water Conservation
Q.8 Food Chains and Food Webs
Q.9 Wildlife Protection Act
Q.10 Role of Information Technology in environment and human health
Q.11 Population explosion
Q.12 Threats of biodiversity
Q.13 Aquatic ecosystem
Q14. Land Conservation

MODEL PAPER

B.Sc. Cl. Embryology Semester-II **Short Name**
Code: BSC0623207

B.Sc. Clinical Embryology

Semester – II
Examination Month Year

Paper - VII
Medical terminology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Define basic terms pertaining to the structure and function of body tissues.

Q.2 Compare the location and function of smooth, cardiac, and skeletal muscle. Describe the mechanism of muscle contraction.

Q.3 Describe and give the functions of the three types of blood cells.

Q.4. Describe the process of breathing and mention few diseases of the respiratory tract.

Q.5. Explain the digestive system with neat and labeled diagram.

Q.6 Write the meaning of following prefixes
Intra (b) Pseudo (c) Tachy (d) Homo (e) Meso

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Meningitis

Q.8 Name any four bones of lower extremity.

Q.9 Electroencephalogram.

Q.10 Role of ovary in reproductive system.health

Q.11 Function of liver and gall bladder

Q.12 White Blood cells

Q.13 Skeletal Muscles

Q14. Cardiac muscle

MODEL PAPER

B.Sc. Cl. Embryology Semester-II **Short Name**
Code: BSC0623208

B.Sc. Clinical Embryology

Semester – II
Examination Month Year

Paper - VIII
Infection prevention and control

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Explain in detail Biomedical waste management?
Q.2 Mention the components of infection control practice in healthcare?
Q.3 Differentiate between sterilization and disinfection?
Q.4. Explain in detail the measures of environmental management?
Q.5 What are hospital acquired infections?
Q.6 Enumerate the significance of care of healthcare workers?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Transportation of patients
Q.8 Infection surveillance
Q.9 Cleaning
Q.10 Collection of specimens
Q.11 Patient placement
Q.12 Prevention
Q.13.Infections
Q 14. sterilization

MODEL PAPER

B.Sc. Cl. Embryology Semester-III **Short Name**
Code: BSC0623301

B.Sc. Clinical Embryology

Semester – III
Examination Month Year

Paper - I
Basics of Andrology and Embryo culture

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Setting up an IUI lab.
Q2. Quality control in andrology lab.
Q3. Composition of culture media.
Q4. Brief account of equipment in andrology lab.
Q5. What is incubator. Mention about various incubators used in IVF lab.
Q6. Structure, function and maintenance of laminar air flow.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Antisperm antibody test.
Q8. Structure & function OT spermatozoa.
Q9. Culture system: Single step and sequential.
Q10. Embryo culture and epigenetics.
Q11. Semen parameters according to WHO.
Q12. Various types of incubators.
Q13. Structure of laminar air flow.
Q14. Oil overlay importance in culture media.

MODEL PAPER

B.Sc. Cl. Embryology Semester-III **Short Name**
Code: BSC0623302

B.Sc. Clinical Embryology

Semester – III
Examination Month Year

Paper - II
Basics of Pharmacology and Toxicology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. What characterizes bioavailability. Give examples of drugs with different bioavailability.
Q2. What characterizes therapeutic value? What does this indication matter? Give examples of drug with small therapeutic
Q3. Enumerate different routes of drug administration. Describe in detail the topical route of drug administration with suitable examples. Compare and contrast the enteral and parenteral routes.
Q4. Classify estrogens. Describe the pharmacological actions, mechanism of action, uses, and adverse effects of estrogens.
Q5. Classify anti adrenergic drugs and write the uses, side effect and contra indication of beta blockers.
Q6. Write indication and side effect of: (a) Oxytocin (b) Atropine (c) Progesterone

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Advantages & disadvantages in oral route of drugs administration
Q8. What is drug dependence. Types of drug dependence.
Q9. Give definition of concept of antagonism
Q10. Define biological standardization
Q11. GnRH antagonists
Q12. Transdermal estradiol
Q13. Plasma half life of drugs and its clinical significance
Q14. Selective estrogen receptor modulators

MODEL PAPER

B.Sc. Cl. Embryology Semester-III **Short Name**
Code: BSC0623303

B.Sc. Clinical Embryology

Semester – III
Examination Month Year

Paper - III
General Microbiology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Define Sterilization & Disinfection. Enumerate the methods of sterilization and disinfection. Write a detail note on moist heat sterilization.
Q2. Define Hospital Acquired Infections. Discuss the various sources of infection and prevention and control of Hospital Acquired Infections.
Q3. Define Staining. Enumerate different staining methods of bacteria. Discuss the principle & procedure of Ziehl Neelsen staining
Q4. Describe the structure of bacterial cell . Discuss morphological shapes of bacteria.
Q5. Growth and maintenance of microbes.
Q6. Write in detail about Antigen antibody reaction

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**
Q7. Gram Staining
Q8. Collection of Urine & Blood Samples
Q9. Contributions of Louis Pasteur
Q10. Bacterial Growth Curve
Q11. VDRL Test
Q12. Shapes of Bacteria
Q13. Widal test
Q14. Culture media and its types

MODEL PAPER

B.Sc. Cl. Embryology Semester-III **Short Name**
Code: BSC0623304

B. Sc. Clinical Embryology

Semester – III
Examination Month Year

Paper - IV
Reproductive Endocrinology
Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. What is azoospermia? Mention its types, causes, evaluation and treatment.
Q2. Write in detail the fertility management of primary and secondary amenorrhea.
Q3. Luteal phase defect and Luteal phase support
Q4. Hyperprolactinemia and thyroid disorders in infertility
Q5. Sperm retrieval techniques for assisted reproductive technologies
Q6. Microbiology of semen and male genital tract infections.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**
Q7. Hirsutism
Q8. Varicocelectomy in infertile male
Q9. Clinical and endocrinological evaluation of the infertile male
Q10. Role of ultrasound in male infertility
Q11. Sexual dysfunctions in male infertility
Q12. Medical management of male infertility
Q13. Evaluation and treatment of azoospermia
Q14. Sperm retrieval techniques for assisted reproductive technologies

MODEL PAPER

B.Sc. Cl. Embryology Semester-III **Short Name**
Code: BSC0623306

B.Sc. Clinical Embryology

Semester – III
Examination Month Year

Paper - VI
Medical record science
Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Explain in detail about birth and death registration?
Q.2 Mention the legal aspects of hospitals, patient and doctors?
Q.3 Define electronic medical records and discuss its importance?
Q.4. Explain the medical record contents and components?
Q.5 Discuss about medical record and law?
Q.6 Enumerate the significance of medical record history?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Medical ethics
Q.8 Indexes and registers
Q.9 Numbering and filing of medical records
Q.10 Legal aspects of medical records
Q.11 Medical record department and its functions
Q.12 Purpose and uses of medical records
Q.13 Computer scanning of medical records
Q14. medical record

MODEL PAPER

B.Sc. Cl. Embryology Semester-III **Short Name**
Code: BSC0623307

B.Sc. Clinical Embryology

Semester – III
Examination Month Year

Paper - VII
Healthcare
Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Explain in detail National Health Programmes?
Q.2 Mention the methods of giving nourishment?
Q.3 Define health and discuss its determinants and indicators?
Q.4. Describe in detail about bed side management?
Q.5 Discuss about principles of bandaging?
Q.6 Enumerate the significance of National Health Policy?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Surgical dressing
Q.8 First Aid
Q.9 Nursing principles
Q.10 Lifting and Transporting Patients
Q.11 Fowler's positions
Q.12 Nursing position
Q.13 Use and care of catheters
Q.14 Transporting Patients

MODEL PAPER

B.Sc. Cl. Embryology Semester-III **Short Name**
Code: BSC0623308

B.Sc. Clinical Embryology

Semester – III
Examination Month Year

Paper - VIII
Disaster Management
Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Explain in detail waste management institutional arrangements?
Q.2 Mention the disaster cycle and its analysis?
Q.3 Define and classify disaster?
Q.4. Explain the different impacts in terms of caste, class, age and gender?
Q.5 What are the roles and responsibilities of community and state in disaster risk reduction?
Q.6 Enumerate the factors affecting vulnerabilities?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Climate change
Q.8 Pandemics
Q.9 Roles and responsibility of Panchayati Raj
Q.10 DM Act
Q.11 Changes in Land use
Q.12 Urban disasters
Q.13.Cultureof Safety
Q.14 Disaster Risk Reduction

MODEL PAPER

B.Sc. Cl. Embryology Semester-IV **Short Name**
Code: BSC0623401

B. Sc. Clinical Embryology

Semester – IV
Examination Month Year

Paper - I
Reproductive pathology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Causes of ovarian, tubal and cervical factor of infertility.

Q2. ART in tubal factor infertility.

Q3. Causes of anovulatory infertility. Write about Genital tuberculosis and infertility

Q4. Describe PCOS and its causes and management .

Q5. Microbiology of semen and male genital tract infections

Q6. Etiopathology, Clinical and endocrinological evaluation of the infertile male

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Thyroid disorder in infertility.

Q8. Luteal phase defect.

Q9. Genital tuberculosis and infertility.

Q10. Male genital tract infections.

Q11. Fibroid & Infertility

Q12. Obesity & Infertility

Q13. Hyperprolactinemia and thyroid disorders

Q14. Hyperprolactinemia

MODEL PAPER

B.Sc. Cl. Embryology Semester-IV **Short Name**
Code: BSC0623402

B.Sc. Clinical Embryology

Semester – IV
Examination Month Year

Paper - II
Reproductive Pharmacology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Enumerate gonadotropin preparations. Describe the physiological functions, uses, and adverse effects of gonadotropins.
Q2. Classify progestins. Describe the pharmacological actions, mechanism of action, uses, and adverse effects of progesterone.
Q3. Various drugs used for ovulation induction. Mechanism of action of clomiphene citrate
Q4. Describe the main two protocols used for COH in IVF cycles.
Q5. Enumerate Selective Estrogen Receptor Modulators. Write down mechanism of action, uses, and adverse effects of tamoxifen
Q6. Differentiate between GnRH agonist and GnRH antagonist. Enumerate indications of GnRH agonist in ART.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. GnRH agonists.
Q8. Clomiphene citrate.
Q9. Mifepristone.
Q10. Uterine relaxants.
Q11. Uterine Relaxants (Tocolytics)
Q12. GnRH antagonist
Q13. Prolactin
Q14. Selective Estrogen Receptor Modulators (SERMs)

MODEL PAPER

B.Sc. Cl. Embryology Semester-IV **Short Name**
Code: BSC0623403

B.Sc. Clinical Embryology

Semester – IV
Examination Month Year

Paper - III
Basics of ART Lab

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Describe various culture medias used in IVF lab. Explain the advantages and disadvantages of different culture methods.
Q2. Write about the Equipments used in IVF lab & consumables – centrifuge machine, incubator, laminar flow, micromanipulator etc.
Q3. Write down the basics of IVF lab designing. How will you manage the air quality in IVF lab.
Q4. Write down protocol of the various sperm preparation techniques used in Andrology Lab
Q5. QA & QC in IVF lab
Q6. Semen analysis – Macro and Micro examinations

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**
Q7. Micromanipulator
Q8. vitrification
Q9. Principle, Structure and maintenance of centrifuge machine
Q10. indication of IUI
Q11. sperm chromatin dispersion test
Q12. Antisperm Antibodies
Q13. Semen analysis reference values according to WHO
Q14. Principle, Structure and maintenance of LAF

MODEL PAPER

B.Sc. Cl. Embryology Semester-IV **Short Name**
Code: BSC0623404

B. Sc. Clinical Embryology

Semester – IV
Examination Month Year

Paper – IV
Embryology in ART

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Describe in details about various IVF technique
Q2. Discuss the Biomedical background of Bourn Hall Clinic. Write in detail The Bourn Hall story.
Q3. Describe Embryo transfer techniques. Discuss advantages and disadvantages of day 3 and day 5 embryo transfer
Q4. Preparation and evaluation of oocyte for ICSI
Q5. Grading of oocytes and different morphological defects found in oocyte.
Q6. Ovarian tissue cryopreservation

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Intracytoplasmic sperm injection
Q8. Analysis of fertilization
Q9. Blastocyst culture and transfer
Q10. Sperm cryopreservation
Q11. Grading of embryos acc to Gardners criteria
Q12. Frozen embryo transfer and its benefits
Q13. Ultrastructure of oocyte
Q14. Conventional IVF

MODEL PAPER

B.Sc. Cl. Embryology Semester-IV **Short Name**
Code: BSC0623406

B. Sc. Clinical Embryology

Semester – IV
Examination Month Year

Paper – VI
Community Health

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 write in detail about recent health policies in India.
Q.2 describe national AIDS & STD control Progran
Q.3 Write a long note on National Population policy
Q.4.Define two approaches (i) Epidimeological based approach (ii) evidence based approach
Q.5 Write about National Cancer Control Programme
Q.6 Write down two health schemes of India

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Maintenance of Records & Reports
Q.8 IEC
Q.9 Tuberculosis Association Of india
Q.10 ICDS Programme
Q.11 Problem Solving approach
Q.12 UNESCO
Q.13. UNICEF
Q.14. Iodine Deficiency Disorder Programme

MODEL PAPER

B.Sc. Cl. Embryology Semester-IV **Short Name**
Code: BSC0623407

B. Sc. Clinical Embryology

Semester – IV
Examination Month Year

Paper – VII
First Aid and Emergency help

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 explain in detail nervous system and unconsciousness?
Q.2 Mention the foreign bodies in eye, ear and nose?
Q.3 What is Skin? Mention in brief the first aid procedure in burns?
Q.4. Explain the first aid techniques in bites and stings?
Q.5 What are wounds and injuries? Explain their types with examples?
Q.6 Enumerate the significance of basic first aid and its techniques?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Fever and Hypothermia
Q.8 Blood circulation
Q.9 Poisoning
Q.10 Swallowed foreign objects
Q.11 Heat exhaustion
Q.12 Respiratory system and breathing
Q.13 Shock
Q.14. Skin burn

MODEL PAPER

B.Sc. Cl. Embryology Semester-IV **Short Name**
Code: BSC0623408

B. Sc. Clinical Embryology

Semester – IV
Examination Month Year

Paper – VIII
Medical Ethics and law in public health

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 What are the fundamental principles of medical ethics, and how do they guide healthcare professionals?

Q.2 Define rational drug therapy. If drugs are used irrationally, what effects can be seen on individual patients as well as in society. What is the role of health professionals in rational use of drugs?

Q.3 What ethical principles guide the fair allocation of resources during public health emergencies

Q.4. Purpose of a code of conduct in healthcare

Q.5 Medico-legal aspects crucial for healthcare professionals

Q.6 key principles in providing care for terminally ill patients

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Medical negligence

Q.8 informed consent

Q.9 Rights of patient

Q.10 Confidentiality

Q.11 organ transplantation

Q.12 rational drug therapy.

Q.13. principles of medical ethics

Q.14. rational drug therapy.

MODEL PAPER

B.Sc. Cl. Embryology Semester-V **Short Name**
Code: BSC0623501

B.Sc. Clinical Embryology

Semester – V
Examination Month Year

Paper - I
Principal of ovarian stimulation and IUI

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Write in detail about ovulation triggers and the role of gonadotropins-releasing hormone agonist trigger in assisted reproduction.
Q2. Discuss Superovulation strategies in assisted conception.
Q3. Write about Agonists in reproductive medicine.
Q4. Describe in detail GnRH antagonist protocol.
Q5.What is IUI. Indications of IUI. Define various sperm preparation methods to prepare an IUI sample
Q6. Superovulation strategies in assisted conception

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Luteal phase support
Q8. Role of LH in ovarian stimulation
Q9. Intrauterine insemination
Q10. Optimizing success in intrauterine insemination
Q11. Progesterone in ovarian stimulation
Q12. HCG trigger
Q13. Monitoring of ovulation induction
Q14. Reasons for failed fertilization

MODEL PAPER

B.Sc. Cl. Embryology Semester-V **Short Name**
Code: BSC0623502

B.Sc. Clinical Embryology

Semester – V
Examination Month Year
Paper - II
Assisted Reproductive Technology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Discuss the clinical aspects of Ovarian hyperstimulation syndrome
Q2. Write about Anesthesia and in vitro fertilization.
Q3. Write in detail about Endometrial preparation in frozen thawed embryo transfer
Q4. What are the outcomes of children born through assisted reproductive technology. Discuss in detail.
Q5. Describe various Sperm retrieval technique for ART
Q6. Batch in vitro fertilization: practical consideration

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Ectopic pregnancy

Q8. Fetal reduction

Q9. Sperm retrieval technique for ART

Q10. Embryo transfer

Q11. Iatrogenic multiple pregnancy

Q12. Frozen embryo transfer vs fresh embryo transfer

Q13. Recurrent Implantation failure

Q14. OHSS

MODEL PAPER

B.Sc. Cl. Embryology Semester-V **Short Name**
Code: BSC0623503

B. Sc. Clinical Embryology

Semester – V
Examination Month Year

Paper - III
Third Party Reproduction

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. What is egg donation. Mention the indications of egg donation. Write in detail about the process, complication and success rate for the same.
Q2. Describe the regulation of surrogacy and surrogacy procedure according to surrogacy bill.
Q3. Describe about the levels of ART clinic and the qualifications and responsibilities of the ART team.
Q4. Describe PCPNDT act in detail
Q5.Describe the indications of sperm, oocyte and embryo donation.
Q6. Legal and ethical aspects of gamete banking.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Sperm donation, its indication, concerns and complications
Q8. Describe all the various aspects of challenges faced in surrogacy
Q9. Consent form for oocyte retrieval
Q10. Indications of surrogacy and process of screening of surrogate.
Q11. Consent form for IUI by donor sperms
Q12. Process of oocyte donation
Q13. Embryo donations and its indications
Q14. Oocyte sharing program

MODEL PAPER

B.Sc. Cl. Embryology Semester-V **Short Name**
Code: BSC0623504

B.Sc. Clinical Embryology

Semester – V
Examination Month Year

Paper - IV
Micromanipulation Techniques

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Discuss Micro tool preparation equipments.

Q2. Describe various kinds of micromanipulation unit.

Q3. Detailed Account of all micro manipulation unit.

Q4. What are the various procedures for ICSI

Q5. Describe about the various micromanipulation systems

Q6. write down the various stages of embryo from fertilization till blastocyst with the help of diagram. Also explain the morphology of various stages.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Patients counseling.

Q8.Indication & contraindication for ICSI

Q9. Identification of normal & abnormal sperms.

Q10. Risk of anomalies in ICSI.

Q11. Reasons for failed fertilization

Q12. IVF vs ICSI

Q13. Sperm immobilization

Q14. Micro tool Alignment

MODEL PAPER

B.Sc. Cl. Embryology Semester-V **Short Name**
Code: BSC0623506

B. Sc. Clinical Embryology

Semester – V
Examination Month Year

Paper – VI
Quality in healthcare

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Define quality?Briefly explain the steps entailed for the measurement of quality?

Q.2 Explain the process of improving quality healthcare through patients at infaction survey?

Q.3 Explain the organization of quality management system? What is Deming's contribution and his management guideline

Q.4. What is TQM? What are the principles of TotalQualityManagement? What are the obstacles

Q.5 Define meaning and significance of six sigma

Q.6 Explain Cause and Effect Diagram

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q7. Pareto chart
Q8. Types of Audit conducted in Hospitals
Q9. Bench marking
Q10. Business process reengineering (BPR)
Q11. Accreditation in Hospitals
Q12. Explain Effect Diagram
Q13. IQM.
Q14. TQM

MODEL PAPER

B.Sc. Cl. Embryology Semester-V **Short Name**
Code: BSC0623507

B. Sc. Clinical Embryology

Semester – V
Examination Month Year

Paper – VII
Therapeutic Yoga

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Define Yogik Practice of Asthma.
Q.2 Describe Ahar Vihar in detail.
Q.3 Define Yogik Management for respiratory.
Q.4. Define Neurological disorder
Q.5 Yogik Management for dysthymia.
Q.6 Define Niyam.

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q.7 Explain ante-natal care.
Q.8 Explain ulcerative colitis.
Q.9 Explain management of neck pain through yoga therapy.
Q.10 Define management of anxiety disorder through yoga therapy.
Q.11 What is pranayam?
Q.12 any one neurological disorder
Q.13. Niyam.
Q.14. dysthymia

MODEL PAPER

B.Sc. Cl. Embryology Semester-V **Short Name**
Code: BSC0623508

B.Sc. Clinical Embryology

Semester – V
Examination Month Year

Paper – VIII
Clinical Psychology

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Distinguish between behavioural model and Phenomenological model of Clinical Psychology

Q.2 Describe the clinical types of Psychological Test. Throw light on its diagnostic uses

Q.3 Describe the important stages involved in function of psycho-analytical therapy. Discuss its merits and demerits.

Q.4. Distinguish between medical research and psychotherapeutic research.

Q.5 Evaluate Ego-analytic therapy.

Q.6 Explain types of Group therapy

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (6x5=30)

Q7. Bias in research

Q8. Discuss the merits and demerits of Gestal therapy.

Q9. Write short note Minimal Brain Dysfunction (MBD)

Q10. Write short notes Bender-Gestalt Test

Q11. Distinguish between mental health and mental illness.

Q12. Explain Systematic desensitization

Q13. Ego-analytic therapy.

Q14. any one types of group therapy

MODEL PAPER

B.Sc. Cl. Embryology. Semester VI **Short Name**
Code: BSC0623601

B.Sc. Clinical Embryology

Semester – VI
Examination Month Year

Paper - I
Cryopreservation and Reproductive Genetics

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Discuss Psychological and psychosocial issues surrounding sperm and egg banking

Q2. Mention in detail the Advantages and disadvantages of slow freezing and Vitrification method

Q3. Discuss the Role of genetics and OAT in infertility

Q4. Detailed Account of cryoprotectant for slow freezing and vitrification method.

Q5. Mention about the kitazato media used in vitrification of oocytes. Write in detail about the composition

Q6. Write about blastomere and embryo biopsy in detail.

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Genetic techniques.

Q8. FISH.

Q9. Embryo biopsies

Q10. Karyotyping.

Q11. D3 vs D5 biopsy. Which is better ?

Q12. Recurrent pregnancy loss

Q13. Troubleshooting in vitrification

Q14. Vitrification of sperms

MODEL PAPER

B.Sc. Cl. Embryology. Semester VI **Short Name**
Code: BSC0623602

B.Sc. Clinical Embryology

Semester – VI
Examination Month Year

Paper - II
Recent advances in ART

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Describe various cause of recurrent implantation failure. Role of aneuploidy screening in preimplantation embryos.
Q2. Describe various causes of impaired hatching
Q3. Describe techniques of assisted hatching.
Q4. Legal and ethical aspects of gamete banking
Q5. Time-lapse video for assessing the embryos
Q6. In vitro maturation of oocytes: a practical approach

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Fertility preservation in male patients
Q8. Describe IMSI procedure
Q9. Advantages & indication of In Vitro maturation of oocyte
Q10. Principles of polarization microscopy
Q11. Microfluidics in assisted reproductive technology
Q12. Fertility preservation in Female patients
Q13. OMICS
Q14. Endometrial stem cells

MODEL PAPER

B.Sc. Cl. Embryology. Semester VI **Short Name**
Code: BSC0623603

B.Sc. Clinical Embryology

Semester – VI
Examination Month Year

Paper - III
Ethical& legal aspects of ART

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Infertility counselling & cross cultural issues in infertility counselling and write in detail about Embryo donation counselling
Q2. Ethical legal & social issue of modern assisted reproductive technology treatment
Q3. Write down Good lab Practices by ESHRE
Q4. Regulation of Surrogacy and Surrogacy Procedures according to Surrogacy bill
Q5. Describe about donor embryo and donor gamete counselling
Q6. Certification & accreditation of IVF centre

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Certification & accreditation of IVF centre
Q8. Legal issues in infertility counselling
Q9. Accreditation of ART Lab
Q10. Psychological evaluation of infertility couple
Q11. Donor oocyte counselling
Q12. Donor embryo counselling
Q13. Greif counselling
Q14. Donor sperm counselling

MODEL PAPER

B.Sc. Cl. Embryology. Semester VI **Short Name**
Code: BSC0623604

B.Sc. Clinical Embryology

Semester – VI
Examination Month Year

Paper - IV
Research methodology & biostatistics

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) **(4x10=40)**

Q1. Experiment study trials
Q2. Randomized control trials.
Q3. Descriptive & analytical
Q4. Qualitative research methods.
Q5. Write about Formulating research question, hypothesis and objectives
Q6. Types of research

Short answer question (Attempt any **SIX** Questions out of **EIGHT** **(6x5=30)**

Q7. Sampling methods & test of significance
Q8. Types of research
Q9. Bias in research
Q10. Informed consent & procedure
Q11. Measurement of disease frequency
Q12. Validity of studies
Q13. Calculating sample size and power
Q14. Selection of study population / study plan

MODEL PAPER

B.Sc. Cl. Embryology. Semester VI **Short Name**
Code: BSC0623606

B.Sc. Clinical Embryology

Semester – VI
Examination Month Year

Paper - VI
CLINICAL NUTRITION

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40)

Q.1 Explain in detail about digestive system?
Q.2 Mention the significance of food preparation?
Q.3 Discuss the importance of nutritive value of food?
Q.4. Describe in detail about the processing of food?
Q.5Discuss the principles of methods of cooking?
Q.6Enumerate the various dietary guidelines?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (5x6=30)

Q.7 Balanced Diet
Q.8 Food sources from which key vitamins are derived
Q.9 Cooking in microwave oven
Q.10 Intelligent use of processed food
Q.11 Composition of food
Q.12 Meals for all ages and occupations
Q.13 Cooking of food
Q14. Processing of food

MODEL PAPER

B.Sc. Cl. Embryology. Semester VI **Short Name**
Code: BSC0623607

B.Sc. Clinical Embryology

Semester – VI
Examination Month Year

Paper - VII
Basic Life Support

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40

Q1. Describe basic life support for adults with diagrams
Q2. Describe basic life support for infants and children.
Q3. What is defibrillator? Explain in detail.
Q4. Make a flow chart for compression only life support algorythm.
Q.5 Basic life support in infants and kids
Q.6 Cardiac arrest and its management?

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (5x6=30)

Q7. IHCA.
Q8. OHCA
Q9. Explain about pediatric chain of survival
Q10. Management of choking
Q11. Explain role of team leader.
Q12. basic life support for infants
Q13. What is cardiac arrest?
Q14. What is respiratory arrest?

MODEL PAPER

B.Sc. Cl. Embryology. Semester VI **Short Name**
Code: BSC0623608

B. Sc. Clinical Embryology

Semester – VI
Examination Month Year

Paper - VIII
Organizational Behaviour

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Long answer question (Attempt any **FOUR** Questions out of **SIX**) (10x4=40

Q1. "Different leadership styles exist in different times, different situations and with different people". Explain leadership in the light of this statement and suggest which leadership style(s) are best suited for a hospital administrator

Q2. Explain the BIG five Personality trait model by taking the example of any social / political / public leader

Q3. How is individual decision making different than group decision making . Which situations are more appropriate for group decision making?

Q4. Define perception and discuss any four frequently used shortcuts in judging others

Q.5 Which motivational theories you think are most relevant for nurses in Hospital settings. Give reasons for your answers

Q.6 Explain any one learning theory and its implications in organizational settings

Short answer question (Attempt any **SIX** Questions out of **EIGHT**) (5x6=30)

Q7. Differentiate a strong cultured organization from a weak cultured organization.

Q8 What do you understand by power and politics in Organisational context

Q9. Poor communication is the source of interpersonal conflict". Do you agree? What are the 7Cs of effective communication ?

Q10. Explain the Lewin's model of change by taking example of resistance of health professionals towards health technology.

Q11. Discuss any three conflict handling strategies

Q12. learning theory implication on organizational settings

Q13. Nurse Motivational theory

Q14. Doctors learning theory about organizational behaviour