

ALL INDIA INSTITUTE OF MEDICAL SCIENCES

KALYANI , WEST BENGAL

Department of Dentistry

PROPOSED COURSE –1

DENTAL MECHANICS COURSE

- Diploma Course
- 02 Years Duration
- 05 Seats

**REGULATIONS FOR THE MAINTENANCE OF MINIMUM EDUCATIONAL STANDARD
FOR DENTAL-MECHANICS**

Dental Mechanics Course :

"Dental Mechanic" means a person who makes or repairs denture and dental appliances. He shall restrict his activities to purely mechanical laboratory work at the instance of the Registered Dental Surgeon. He shall not do any chair side work.

The qualifications for Dental Mechanics, it is prescribed that:-

To achieve this:-

1. A candidate should be at least 17 years of age at the time of admission or within 3 months of it and should be medically fit to pursue the course.
2. The candidate must have passed 10+2 or two years intermediate or equivalent course thereof with Science subjects (i.e.) Physics, Chemistry and Biology from a recognized Indian University or Pre-University/Intermediate Board.
3. The medium of instruction shall be in English.

I. MINIMUM REQUIREMENTS FOR TRAINING FOR DENTAL MECHANICS :

1. The minimum hours devoted to the under mentioned subjects shall be as follows:-

FIRST YEAR			
SUBJECTS	LECTURES	PRACTICALS / LABORATORIES / DEMONSTRATION	TOTAL
Applied Physics & Mechanics	30	20	50
Applied Chemistry	30	20	50
Applied Oral Anatomy	20	90	110
Dental Materials	20	40	60
Metallurgy	15	15	30
Dental Mechanics (Primary)	30	600	630
TOTAL	145	785	930

SECOND YEAR			
SUBJECTS	LECTURES	PRACTICALS / LABORATORIES / DEMONSTRATION	TOTAL
Dental Materials and Metallurgy	20	40	60
Dental Mechanics (Final)	30	785	815
Basic knowledge of computers and Medical Records Management	10	10	20
TOTAL	60	835	895

2. The classes in different subjects of the curriculum should be taught exclusively for this course.
3. There should be at least one instructor for every 10 students working in Technical Laboratories at any given time.
4. For the teaching of dental subjects, no person except those holding recognized dental qualification shall be employed.
5. The training in this course must possess the following minimum requirements :-
 - a. Atleast two class rooms i.e. one each for 1st & 2nd year students, at least one of which must be equipped with a LCD projector.
 - b. Specific/subject wise Technical Laboratory facilities should be provided for each student so that practical / demonstrations on Applied Physics and Mechanics, Chemistry, Oral Anatomy, Dental Materials & Applied Metallurgy and Dental Mechanics can be held.
 - c. A Professional Library with text books should be available to the students for reference on the subjects of the course.
 - d. Well equipped laboratories for Prosthetic and Orthodontic work. Ceramic furnace, pressable furnace, centrifugal/Resistance casting machine, burn out furnace, sand blaster, etching and pickling equipment, blowtorch, for oxygen and LPG, Electro polishing unit, acryliser, high speed Dental lathe, lab micro motor etc.
 - e. Teaching Staff: The teaching staff should have a minimum qualification of BDS Degree. A master degree (MDS) teaching staff will be preferred.
6. The Candidates shall do the following Pre-clinical work:-
 - a. Preparation of plaster blocks, edentulous models, shellac and auto-polymerizing base plates, occlusal rims, Class-1 ideal teeth set-up, wax-up and curing.
 - b. Model and die preparation.
 - c. Preparation of inlay/ crown on prepared models.
 - d. RPD model duplication and wax pattern preparation followed by casting.
 - e. Orthodontic wire exercises (straightening/circle/triangle/square).
 - f. Fabrication of Orthodontic clasps and appliances.

g. Single unit crown on Implant Analogue.	
7. The minimum amount of practical work that has to be completed by each student during his/her two years course:-	
A. COMPLETE DENTURES	
Acrylic.....	20
Metallic	05
B. PARTIAL DENTURES	
Acrylic,.....	15
Metallic	05
C. REPAIRING/RELINING OF DENTURES	20
D. INLAYS:	
Indirect Composite.....	05
Metallic	10
Ceramic	05
E. CROWNS:	
Acrylic.....	05
PFM.....	05
Metallic	05
Pressable ceramic	05
Zirconia/CAD-CAM	01
F. BRIDGE WORK (VARIOUS TYPES)	
Provisional	10
3 unit Metal.....	15
3 unit PFM	15
3 unit Resin Bonded.....	03
G. SPLINTS -	
Acrylic Cap Splint	03
Night guard (Vacuum formed)	03
Bleaching trays	02
H. OBTURATORS and other Maxillofacial appliances	10
I. ORTHODONTIC STUDY CASTS.....	06
J. ORTHODONTIC APPLIANCES	12
K. IMPLANT PROSTHESES FABRICATION	05
L. LAMINATES AND VENEERS	05

II. EXAMINATIONS

- A. An examination for the grant of Diploma of Dental Mechanics shall be conducted by a Board of three Examiners imparting training for qualification of Dental Mechanic Course. One of the Examiners must be external (from outside the institution).
- a. Out of the 03 members of examination board , the external examiner and one internal examiner should be MDS, and the third examiner can be BDS/MDS.
 - b. He/She should be an active teacher in a a recognized medical / dental institution.
 - c. The examination shall be held on such dates as may be fixed. The examination shall consist of two parts; (1) Primary and (2) Final Examination. '

THE PRIMARY EXAMINATION (FIRST YEAR)

- B. The examination shall be opened to any students who -
- a. Has been enrolled during one academic year preceding the examination.
 - b. The candidate must have passed 10+2 or two years intermediate or equivalent course there of with Science subjects (i.e.) Physics, Chemistry and Biology from a recognized Indian University or Pre-University/Intermediate Board.
 - c. (c) has his/her name submitted to the Board of examiners by the Head of the institution in which he/she is enrolled;.
 - d. Produce the following Certificates signed by the Head of the institution.
 - i. of good character;
 - ii. of having attended not less than seventy five percent of the full course of lectures delivered and practicals demonstrations/ clinicals conducted in each of the subject of examination.
- C. Every candidate shall forward his/her application to the Examining Body by a date fixed by that Body, accompanied by the prescribed fee. A candidate who fails to pass or present himself/herself for examination shall not be entitled to claim a refund of the fee.
- D. Every candidate shall be examined in the following subjects comprising of three papers as follows:-

Marks for each of the papers shall be as under:-					
		Written	Oral	Practicals	Total
Paper I	Applied Physics, Chemistry and Mechanics	75	25	---	100
Paper II	Dental Mechanics	75	25	100	200
Paper III	Applied Oral Anatomy	75	25	100	200
Each written paper shall be of three hours.					

- E. Every candidate shall be required to take up all subjects of the examination. A candidate failing in any paper or papers of this examination before being permitted to reappear at the subsequent examination, shall produce evidence of having pursued such a course of training as the Head of the institution may determine.
- candidate, who passes in any one or more papers of the examination shall be exempted from appearing in that paper which he/she has passed and shall be allowed to re-appear in the rest in which he/she has failed in any subsequent examination within a period of two years. Thereafter the candidate will have to appear in all the papers of this examination.
- F. The minimum number of marks required to pass the examination shall be fifty percent in each paper both in the (i) written with oral and (ii) practical parts of the examination. Candidates who obtain minimum of seventy five percent marks in any paper under examination and passes in all three subjects in first attempt shall be declared to have passed with distinction in a particular subject/s. Candidates who do not pass in all the papers in the first attempt and later obtains the distinction marks shall be declared as passed but without distinction.
- G. As soon as possible after the examination, the Board of Examiners shall publish a list of the candidates who have passed. Each successful candidate shall be granted a **PRIMARY DIPLOMA**.

THE FINAL EXAMINATION (SECOND YEAR)

H. This examination shall be open to any student who -

- a. has been enrolled for Primary academic year (first year) preceding the final examination.
- b. previously passed the Primary Examination for the Diploma of Dental Mechanics.
- c. has his/her name submitted to the Board of Examiners by the Head of the Institution.
- d. produces the following certificates signed by the Head of the Institution:-
 - i. of good character,
 - ii. of having attended not less than seventy five percent of the full course of lectures delivered and practical/demonstration/ clinical conducted in each of the subjects of the examination.
 - iii. of having passed the Primary Examination in all papers.
 - iv. there shall not be a gap of more than two academic years between Primary and Final Diploma Exams.

I. Every candidate shall forward his/her application to the Examining Body by a date fixed by that Body, accompanied by the prescribed fee. A candidate who fails to pass or present himself/herself for examination shall not be entitled to claim a refund of the fee.

J. Every candidate shall be examined in the following subjects comprising of three papers as follows:-

Marks for each of the papers shall be as under:-					
		Written	Oral	Practical	Total
Paper I	Dental Mechanics (Final)	75	25	100	20
Paper II	Dental Materials & Metallurgy	75	25	---	100
Paper III	Basic knowledge of Computer & Medical Records Management	75	25	---	100
Topics covered under Dental Mechanics Primary- Examination should not be repeated in the final examination.					

Each written: paper shall be of three hours.

- K. Each candidate shall be required to take up all papers of the examination. A candidate failing in any paper or papers of the examination before being permitted to re-appear at the subsequent examination, shall produce evidence of having pursued such a course of training as the Head of the institution may determine.

A candidate, who passes in any one or more papers under examination shall be exempted from appearing in which he/she has passed and shall be allowed to reappear in the rest in which he/she has failed in any subsequent examination within a period of two years. Thereafter the candidate will have to appear in all the papers of this examination.

- L. The minimum number of marks required to pass the examination shall be fifty percent in each paper both in the (i) written with oral and (ii) practical parts of the examination. Candidates who obtain minimum of seventy five percent of the marks in any paper under examination shall be declared to have passed with distinction in that particular subject provided he/she passes all subjects of examination in first attempt. Candidate who do not pass in all the papers of the FINAL EXAMINATION at one and the same time shall not be declared to have passed with distinction.
- M. As soon as possible after the examination, the Board of Examiners shall publish a list of those candidates who have passed. Each successful candidate shall be granted a Diploma.

III. SYLLABUS FOR THE DENTAL MECHANICS COURSE

PRIMARY (1ST YEAR)

A. APPLIED PHYSICS:

Specific gravity, density, properties of matter, including cohesion, capillarity, surface tension viscosity, elasticity, diffusion and osmosis.

Heat: Temperature and its measurements Thermometers and Pyrometers. General account of expansion by heat of solids, liquids and gases, Thermostats, Pressure gas and hydraulic. Boyle's and Charles Laws. Unit of heat, thermal capacity and specific Heat, Change of State; Latent heat; Melting Point. Properties of vapours, conduction, convection and radiation.

Principles of electro-technology applied to dental work room, small motors, constructional features and characteristics, electric furnaces, heaters, thermostats, pyrometers, spot welders, electroplating, electro-forming, and anodizing, Wiring regulations relating to low voltage supplies.

Exercises/ Demonstrations:

- Balance - weighing correct to a milligram.
- Determination of specific gravity by the principle of Archimedes (Solids and liquids).
- Determination of surface tension of a liquid by capillary rise.
- Determination of Linear expansion of solids (level method).
- Determination of the specific heats of solids and liquids by the method of mixtures.
- Small motors-constructional features. and characteristics (Demonstration only)
- Determination of the electro-chemical - equivalent of copper.

B. Applied Mechanics:

Forces, Parallelogram and triangle of forces. Moments, Couples, Centre of gravity, Principles of lever and cantilever work, Energy; Power, Friction, Inclined plane, Screw Stress, Strain, Shearing Strain, Torsion, Bending movements, Strength. and stiffness of materials.

Exercises/Demonstrations:

- Verification of the parallelogram and triangle laws of forces.
- Inclined plane Determination of mechanical advantage.
- Determination of Young's Modulus by bending of beams.

C. Applied Chemistry:

Distinction between physical and chemical change; elements, mixtures, and compounds; composition of the atmosphere; Oxygen oxides, burning and rusting; water solvent properties and crystallization; action of water on metals; composition of water hydrogen; Laws of chemical combination; meaning of chemical symbols valency; simple chemical equations; acids, bases and salts. .

Electrolysis, The ionic theory of .solution. The electropotential series, electroplating, General characteristics of the metals including an elementary study of the common metals and their alloys with special reference to those used in the dental work room.

Alcohol, ethers, aldehydes and ketones, fatty acids and their more important derivatives, amines. Simple treatment of carbohydrates, fats and proteins, Benzenes and its homologues. General characteristics of aromatic substances. Synthetic resins and plastics used in Dentistry.

Exercises/Demonstrations:

- Tests for Acids and alkalis radicals.
- Acid-base-titration- Neutralisation of acids with alkalies. Titration of N/ 10 NaOH with N/10 H₂SO₄ Phenolphthalein or Methyl red as indicator 2⁴.
- Total Nitrogen determination in organic nitrogenous materials, digestion and distillation.
- Total Nitrogen determination in In-organic (ammoniacal) solutions (or salts) by direct distillation with Mg.
- Determination of Phosphorus in in-organic materials by precipitation.
- Determination of Potassium in aqueous solution by perchlorate method.
- Electrolytic deposition (electrolysis and electroplating of metals).
 - o Deposition of Copper by electrolysis of copper Sulphate solution.
 - o Calculation of E.C.E.

D. APPLIED ORAL-ANATOMY:

- Elementary anatomy and structure of denture/bearing area.
- Human dentition and occlusion.
- Functions of teeth and morphology of Crowns of teeth.
- Muscles of mastication and facial expression.
- Mastication deglutition and phonation.
- Movements of temporo-mandibular joint.

Exercise/Demonstrations

- Tooth Carving in wax and plaster.

(Crown and root, scale and enlarged models)

E. DENTAL MECHANICS (PRIMARY):

- Infection control measures for impressions and models
- Impression Preservation and Boxing-in.
- Cast: Preparation, Trimming, including Orthodontic casts.
- Cast duplication - various methods.
- Construction of special trays – spacers
- Bite blocks- base plates and wax rims.
- Articulators: Classification, daily uses, and care of articulators.
- Adjustments, Mounting of casts.
- Articulation, Occlusal plane, protrusive balance, working bite, balancing bite, curve of space, compensating curve, lateral curve.
- Principles of selection of teeth.
- Setting of teeth and wax finishing.
- Flasking, Dewaxing, Packing, curing and Deflasking.
- Finishing and polishing of dentures.
- Additions, repairs, relining and revasing of dentures.
- Immediate denture construction.
- Making of acrylic teeth.
- Kennedy's classification of partial dentures.

- Principles of partial denture, design, clasp surveyor, surveying, path of insertion and removal. Establishment of clasp seat. Clasp's parts, classification, function and reception.
- Principles of wire bending, Preparation of wrought clasps, occlusal rests and lingual bars.

A. Dental Mechanics (Final):

- Casting machines: Centrifugal and pressure casting machines, Furnaces, Principles of casting..
- Casting techniques of partial denture (Skeletal) Clasps, bars, occlusion rest.
- Setting of teeth and completion of dentures on metal skeletons.
- Mechanical principles of Orthodontic appliances, anchorage, force, tissue changes and retention.
- Stainless steel wire-preparation of clasps, springs and Arch wires for Orthodontic appliances.
- Use of various types of expansion screws.

Designing

- Implant supported Prosthesis
- Ceramic, laminates and Veneers.

Fabricating—Maxillofacial prosthesis such as eye, nose ear, cheek, obturator and splint

- Indirect Resin Restoration preparation techniques.
- Porcelain firing techniques
- Preparation of removable Orthodontic appliances, Activators, Retention appliances and Oral screen.
- Construction of fixed Orthodontic appliances, bands, tubes and arches.
- Soldering and spot welding-Soldering of clasps, tags, Strengtheners and lingual bars.
- Inlays and Crowns-classification and construction facing & backings.
- Casting Procedures.
- Principles of bridge work-types of abutments - abutments and pontics construction of bridges using porcelain and acrylic pontics.

B. DENTAL MATERIALS AND METALLURGY •

Dental Materials:

Composition, Properties, Uses, Advantages & Disadvantages of the following materials:-

Plaster of Paris; Dental Stone, Die Stone

Investment Materials,

All Impression Materials,

Tray Materials,

Denture Base Materials, both for cold curing and heat curing, Tooth Materials Waxes,

Base Plates,,

Zinc Oxide,

Dental Luting Cements

Dental Ceramics and indirect resin restoration materials.

Dental Metallurgy:

- Metallurgical Terms,

- General Study of:

Metals used in Dentistry particularly Gold, Silver, Copper, Zinc, Tin, Lead and Aluminium.

Alloys used in Dentistry particularly, Casting Gold Wrought Gold Silver Alloys, Stainless Steel, Chrome Cobalt Alloys.

- Heat treatment-annealing and tempering.

- Solders, Fluxes, Anti Fluxes.

- Tarnish and Corrosion.

- Electric Deposition.

- Dental implant materials

C. BASIC KNOWLEDGE.OF COMPUTERS

- General office routine economics, record-keeping services, Professional referrals and computing skill;

- Record keeping Of materials indented and Audit of use.

- Receipt and dispatch of work from clinicians

IV. PRACTICAL EXAMINATIONS

The practical examination shall include, but not necessarily limited to the following-

1. Primary examination

- a) Model preparation, beading, boxing of models.
- b) Class I ideal denture setup and waxup.
- c) RPD surveying of models and wax pattern preparation.
- d) Spotting of dental materials.
- e) Manipulation of lab dental materials.

2. Final examination

a) Three units FPD

- Model poring
- Die-preparation
- Ditching
- Spacer application
- Wax pattern
- Casting of all metal bridge

b) Ceramic application on single unit crown (Casted before).

PROPOSAL
FOR
DOCTOR OF PHILOSOPHY (Ph.D.) in Nursing
2023-24

MEDICAL SCIENCES, KALYANI
ALL INDIA INSTITUTE OF MEDICAL SCIENCES
AIIMS Kalyani

DOCTOR OF PHILOSOPHY (Ph.D.) in Nursing for Academic year 2023

The program is designed to equip nursing students with the knowledge, skills, relationships, confidence, critical thinking and analytical capacity essential for discovering and disseminating research-based evidence to support innovative solutions that lead to better health outcomes and advance the science of nursing.

1. ELIGIBILITY FOR ADMISSION:

1.1. Educational qualifications

A candidate seeking admission to the course of study leading to the award of Degree of Doctor of Philosophy must possess at least one of the following qualifications. The degree should be awarded by this Institute or any other University/Institute recognized by this Institute and established by law.

S. No	Qualifying degree	Mode of entry
1.	Master of Science in Nursing with at least 55% of the aggregate marks (50 % in case of SC/ST/OBC/OPH candidates) in the qualifying examinations.	Qualifying in entrance test

1.2. Common provisions for admission to Full-time Ph.D. course:

1.2.1. Eligibility to apply for a full-time course of PhD

The candidate who fulfils one of the following requirements may be considered for admission to the Ph. D.

- (i) A teacher/ employee of the Institute holding a substantive post who is relieved on study leave with salary for a period of not less than two years for pursuing a Ph.D. program.

1.2.2. Selection procedure for admission to a full-time course of Ph.D.

Candidates will be shortlisted for an interview after their performance in the Entrance Test or the qualifying degree as detailed in the above table. The selection is based on the performance in the interview.

1.2.3 Mid-stream departure: If the candidate wishes to discontinue the course for any reason(s), he /she will be levied a fine as mentioned hereunder:

Before 12 months: Rs.1,00,000

Between 12-24 months: Rs. 2,00,000

Between 24-36 months: Rs. 3,00,000

1.2.3 Number of Seats – 02 (Regular/ Part-Time)

1.2.4 Specialty Offered- Medical-Surgical Nursing and Pediatric Nursing

1.3. Admission to Part-time Ph.D. course

1.3.1. Internal candidates

- (a) Teacher candidates working in this Institute who have completed their probation and three years.
- (b) Non-teaching staff employed in a time scale of pay in this Institute
 - i. The candidate possesses the required Post-graduate degree as prescribed by the Department concerned and has obtained 55% marks (or equivalent grade).
 - ii. The candidate has at least 5 years of work experience of which at least two years should be relevant to the field of research certified by the HoD or the guide, proof of which to be evidenced through two original research papers published in peer-reviewed Medline-indexed journals as the first author.

1.3.2. Common provisions for admission to a part-time course

All the part-time internal, candidates applying for admission to the Ph.D. program should submit an outline proposal of the research to be conducted, giving sufficient background material and the proposed line of research, and obtain the consent of a guide duly recognized by the Institute along with administrative permission from the competent authority to be considered for admission.

1.4 DURATION OF THE PROGRAMME:

1.4.1 Full Time

The candidates registered for the Degree of Doctor of Philosophy (Ph.D.) as full-time research scholars shall undergo research work for a minimum period of 3 years from the date of provisional registration.

He/she shall attend the department for research on all working days, except for periods when he/she is allowed to visit other institutions/laboratories for activities connected with research

Proposal for PhD in Nursing Programme AIIMS, Kalyani

for a period permitted by the concerned guide.

1.4.2 Part-Time

Part-Time candidates shall have to put in one year more than that prescribed for full-time research.

1.5 Maximum duration

The duration of the course and certification of research experience will be the time period from provisional registration to submission of the thesis. The maximum period of the course shall not exceed five years for full-time candidates and six years for part-time candidates from the date of provisional registration. During this period, it is mandatory for the candidate to work in the department. **The registration of the candidates who could not complete their course within the above stipulated period will stand cancelled automatically. They will not be eligible for any Ph.D. course at the Institute.**

1.6 MODE OF SELECTION

The candidates desirous of registering for the Ph.D. degree full-time program should apply in the prescribed application form through the proper channel wherever applicable before the due date as indicated in the notification issued from time to time. Normally, the Institute will issue notification for Ph.D. admission once/ twice

a. Only the candidates who are eligible based on the eligibility criteria mentioned above will be called for an interview. The final selection is based on the interview.

by the Ph.D. Admission committee, constituting the Director, Dean (Academics), Dean (Research), and the Members of Ph.D. Monitoring committee and the respective Guides.

1.7 PROVISIONAL Enrolment FOR Ph.D. PROGRAM

(FULL-TIME AND PART-TIME)

- (i) A Candidate, certified as eligible for the Ph.D. program by the Ph.D. Admission Committee shall be provisionally enrolled for the Ph.D. Degree subject to approval by the Director and on payment of the prescribed fee.
- ⓪ A candidate applying for provisional enrolment shall do so, specifying the broad field or an interdisciplinary field in which he/she intends to pursue research, the subject of research being wholly or partly related to the main branch of knowledge chosen for the Post-graduate degree in which the candidate has qualified and the name of the recognized guide under whom he/she proposed to do research.
- ⓪ Enrolment of the candidates to the Ph.D. program will take effect from the date of joining the Institute.
- ⓪ The maximum number of Ph.D. candidates per guide shall be five (full-time) at any given point in time.
- ⓪ Candidates who propose to carry out research work in an interdisciplinary area will be permitted to have, on the recommendations of the guide/supervisor, a co-guide who will be a specialist in the related subject.

2 DOCTORAL COMMITTEE

- (a) When the candidate is accepted for provisional enrolment, a doctoral committee will be constituted in each case. The doctoral committee shall consist of 3 members normally, consisting of a **Guide / Supervisor** (as Coordinator he/she would initiate steps for the formation of the Committee), another faculty member from the same department/institute working in the same field as an **Internal expert** and one faculty member from outside the institute specialized in a related field as an **External expert** shall be included in the committee. **The number of co-guides permitted in a doctoral committee are three.** The internal expert can play the role

of the Ph.D. research monitoring committee nominee. The maximum number of members of the committee **shall be six**. All members of the Doctoral Committee must be recognized as research guides. The Committee will be formed from the panel of names (maximum 6) submitted by the Supervisor and nominated by the Director.

(b) The Committee shall meet once in six months, to review the work of the candidate, make suggestions for the future work, and submit reports on the progress to the Director through the Dean.

(c) The first meeting of the Committee shall be within **One-month** after provisional registration and in this meeting, the Committee shall prescribe the courses that the candidate needs to take as a requirement for the part I examination.

(d) Part-I examinations shall be conducted by the examination cell. The Ph.D. candidates shall appear for examination consisting of two written papers of 3 hrs. duration. Paper-I will be common to all students, consisting of research methodology and basic biostatistics; while paper II will be consisting of Advanced Nursing. The syllabus for the Part-I, Paper-II examination will be framed by the Guide and vetted by the Doctoral Committee. Each written paper carries a maximum mark of 100. The written examination will be conducted under the supervision of the Examination Cell AIIMS Kalyani. The Valuation in respect of Part-I, Paper-II will be done by Guide, co-guide and one Doctoral committee member, one observer (internal faculty who is eligible to be PhD guide) selected by the Director/Dean (Exam) will be present for going through the conduct of the exam. The final mark sheet will be signed by all three. The passing minimum is 50% of each paper. All the candidates shall have to clear the Part-I examination within 12 months from the date of joining or a maximum of 3 attempts whichever is later. A candidate who fails in the third attempt shall not be permitted to continue and the enrolment shall be cancelled.

(e) The Committee shall conduct in the Department a doctoral meeting in which the candidate makes a public presentation of his/her synopsis before its submission on a working day and approve the research work for finalization in the form of a thesis.

(f) The Committee after examining the progress made by the candidate shall recommend the submission of the synopsis and the thesis within the due date

stipulated by the Institute. The Doctoral Committee shall endorse changes in the title of the thesis if any.

(g) The Committee shall suggest the names of the panel of examiners for the evaluation of the thesis to the Ph.D. monitoring Committee. The Committee shall ensure that all the examiners are of high standing in the field of the research of the candidate. And provide a list of examiners to the examination cell to send the thesis for further evaluation. Exam cell may choose any 3 examiners across the world to evaluate the thesis.

(h) If the Ph.D. monitoring Committee is not satisfied with the panel, it may ask for additions/deletions or ask for a fresh panel from the Doctoral Committee.

(i) As per institute policy the external Doctoral Committee member will be paid an honorarium of Rs.1000/- (one thousand only) each for every notified meeting and draw TA/DA as per their eligibility.

(j) The examination cell may invite the Ph.D. candidate for a public Viva-voce on receipt of the Satisfactory Thesis report from the panel of examiners. Public Viva- voce may be conducted by the guide, with one external examiner invited by the examination cell.

(k) On satisfactory recommendation from the External examiners and the Doctoral Committee, the candidate may be conferred the doctoral degree by the Academic section.

3 COURSES OF STUDY

The course of study for the Ph.D. The program shall consist of training programs (internal and external), two written papers and viva voce under Part-I and thesis submission & public viva-voce under part II.

RESEARCH AND STATISTICS

PURPOSE: The course is designed to help the students to conduct research studies in nursing independently by using the scientific method of research & to use statistical methods. It also will help students to interpret the results in a meaningful way in health-related matters & utilize research findings to improve nursing practice.

SPECIFIC OBJECTIVES

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

1. Define the terms used in research
2. Describe concepts of scientific inquiry
3. Describe research methodology
4. Critically analyze research studies
5. Develop an acceptable research proposal
6. Demonstrate initial competency to conduct health-related research
7. Write, present, interpret and utilize health-related research
8. Write a scientific paper for publication

CONTENT OUTLINE

Unit I Introduction:

- Need for research in nursing,
- Problem solving and scientific method
- Terminology used in research
- Scope of nursing research: Areas, types, problems,
- Elements and ethics in research

Unit II Research Approaches:

- Types: Qualitative and Quantitative
- Historical, Descriptive, Experimental

Unit III Research Designs:

- Research process - steps, concepts and constructs
- Research problems and statements,
- Review of literature,
- Definition of terms,
- Assumptions, Limitations,
- Hypothesis and variables

Unit IV Sampling:

- Population and sample
- Sample size
- Sampling technique
- Problems of sampling

Unit V Theoretical Context:

- Purpose and use of theories
- Nature and characteristics
- Using, testing, and developing conceptual framework, models, & theories

Unit VI Tools and methods of data collection:

- Methods of data collection: quantitative and qualitative
- Tools for data collection and their development
- Validity and reliability of tools
- Feasibility of study
- Conduct of research

Unit VII Analysis and interpretation of data:

- Qualitative and quantitative analysis
- Interpretation of data
- Conclusion and generalizations
- Summary and discussion

Unit VIII Reporting and utilizing results:

- Communication of research results
- Writing research report, methods and style
- Writing style for scientific articles for publication

Unit IX Analysis and critiquing of research reports and articles

Unit X Developing a research proposal

B. STATISTICS

Theory 50 Hours

PURPOSE: To develop an understanding of statistical methods and apply them appropriately.

SPECIFIC OBJECTIVES

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

1. Explain basic concepts related to statistics
2. Identify the scope of statistics
3. Organize and tabulate the data and present it
4. Use descriptive and inferential statistics to predict the results
5. Apply & interpret measures of central tendency & measures of variance
6. Identify concepts related to probability
7. Use parametric and non-parametric statistical methods.
8. Draw conclusions of the study and predict the statistical significance of the results
9. Describe vital and health statistics and their use
10. Use statistical packages for analysis of data

COURSE CONTENT

Unit I Basic concepts related to statistics:

- Significance & Scope of statistics
- Levels of measurement

Unit II Organization and presentation of data:

Graphic & tabular presentations

Unit III Measures of central tendency:

- Mean, mode, median,
- Quartile deviation
- Percentile, range

Unit IV Measures of variability:

- Need and meaning
- Range, Mean deviation,
- Standard deviation,

- Normal distribution, Skewness, Kurtosis

Unit V Measures of relationship:

- Correlation: Need and meaning
- Scatter diagram method
- Karl Pearson's coefficient of correlation
- Rank order correlation,
- Simple linear regression analysis

Unit VI Theoretical frequency distributions:

- Need & meaning
- Probability,
- Binomial distribution, Poisson distribution,
- Normal distribution

Unit VII Testing Hypotheses:

- Non-parametric tests - Chi-square, Median test, Mann Whitney U test
- Parametric tests - t test, ANOVA,
- Test of independence, goodness of fit

Unit VIII Use of computers in data analysis

- Use of statistical packages

Unit IX Use of statistical methods in psychology and education:

- Scaling - Z score and Z scaling,
- Standard score and T scores,
- Reliability of test scores: test-retest method, parallel forms, split-half method

Unit X Designs and meaning:

- Experimental designs
 - Comparison in pairs, randomized block designs, Latin squares

Unit XI Introduction to multivariate statistical technique:

- Multiple regression, discriminant canonical correlation,
- Principle component and factor analysis

Unit XII Application of statistics in health:

- Vital and health statistics
- Registration of Birth and Death,
- Measures related to fertility, morbidity, mortality

4. Training Programme

4.1 Institutional Training: Candidates will have to participate regularly in the research-oriented teaching programs, post-graduate lectures, journal clubs, and seminars of the department during the initial two years. They may not attend any teaching activity which is purely clinical.

4.2 External Training: The candidate may be permitted to undergo external training for up to six months at a recognized national or international research institute in the entire tenure for learning techniques/research work related to the project on the recommendations of the guide and approval of the Director.

4.3 Leave: Only 30 days' leave is permitted in a given year. Two conference leaves will be permitted in a year not exceeding ten days. During this conference, the candidate should present a paper from her/his thesis work. If they wish to attend any other conference, they will have to avail themselves leave from their sanctioned 30 days. Leave for undergoing training and attending workshops will be considered as per the existing Ph.D. guidelines.

4.4 Approval of Scientific Advisory Committee and Institute Ethics Committee

The candidate should get the approval of his/her research proposal from the Institute's Scientific Advisory Committee and the Institute Ethics Committee (Human/Animal) within six months of his/her provisional registration.

4.5 Examination under Part I of the Ph.D. Program

(i) Part-I examinations shall be conducted by the examination cell. The Ph.D. candidates shall appear for examination consisting of two written papers of 3 hrs. duration. Paper-I will be common to all students, consisting of research methodology and basic biostatistics and advanced nursing; while paper II will be consisting of experimental/laboratory techniques/methodology and questions related to the chosen topic. The syllabus for the Part-I, Paper-II examination will be framed by the Guide and vetted by the Doctoral Committee. Each written paper carries a maximum mark of 100. The written examination will be conducted under the supervision of the Examination Cell AIIMS Kalyani. The Valuation in respect of Part-I, Paper-II will be done by Guide, co-guide and one Doctoral committee member, one observer (internal faculty who is eligible to be PhD guide) selected by the Director/Dean (Exam) will be present for going through the conduct of the Viva-voce. The final mark sheet will be signed by all three. The passing minimum is 50% of each paper. All the candidates shall have to clear the Part- I examination within 12 months from the date of joining or a maximum of 3 attempts whichever is later. A candidate who fails in the third attempt shall not be permitted to continue and the registration shall be cancelled.

- (i) The marks obtained will be sent to the office of the Dean (Exam) by the supervisor in a sealed envelope. In case the candidate fails in any one paper or viva voce, he/she will be permitted to take the exam after one month.
- (ii) The Part-I Examination shall consist of the following: Paper I: Research Methodology including biostatistics and advanced nursing Paper II: An advanced paper on the topic of the PhD concerned including the involved instrumentation and methods & viva voce for a Total mark of 300.
- (iii) The syllabus for the Part I examination will be framed by the guide and vetted by the Doctoral Committee. Valuation in respect of Paper-II will be done by Guide and co-guide, one observer selected by the Director/ Dean (exam) will be present for going through the conduct of the exam. The final mark sheet will be signed by all three. The passing minimum is 50% for each paper and 50% for viva voce.
- (iv) A candidate who fails in the written examination may be permitted to reappear in the examination on two more occasions. All the candidates shall have to clear the Part-I examination within 12 months from the date of registration.
- (v) A candidate who fails in the third attempt shall not be permitted to continue and the provisional registration shall be cancelled.

4.6 Confirmation of Provisional Enrolment and Thesis under Part – II

- (a) The Provisional Enrolment of a candidate for the Ph.D. Degree shall be confirmed on receipt of the report of the result of the Ph.D. Part-I examination is conducted and the candidate will be registered under part II of the Ph.D. program, namely thesis and viva- voce. Every such candidate shall be required to choose a research topic and submit a thesis incorporating the results of his/her investigations carried out under the guidance of a recognized Supervisor.
- (b) Part-time (internal) candidates registered under guides not working in the same department shall be required to spend the last six months of their tenure directly under the supervisor who will have close scrutiny of the final stages of research.

- (c) Conversion of Ph.D. research from full-time to part-time and vice-versa will be allowed only in special circumstances and on payment of the “prescribed status change fee” as per the Institute policy.
- (d) The following formula will be adopted for the conversion of Ph.D. Program from full-time to part-time and vice-versa: The residual period that the candidate has to complete, at the time of his / her submission for conversion (from full-time to part-time or part-time to full time as the case may be), for fulfilling the requirement of the minimum duration of submitting the thesis under the existing category will be taken note of and the equivalent period of the corresponding shall be determined and intimated to the candidate, without exceeding the maximum duration.
- (e) If the Ph.D. Scholar is suspended from duty in connection with any investigation into his/her conduct, he/she shall not be entitled to any pay/salary during such period of suspension.
- (f) The Ph.D. Scholar shall devote his/ her whole time to the duties of the said service and shall not engage, directly or indirectly, in any trade, business, occupation or profession. (Including any private practice) on his/her own account and shall not (except in case of accident or sickness certified by competent Medical authority) absent himself/herself from his/her said duties without having first obtained permission from the Government or its authorized officers.
- (g) The Ph.D. Scholar shall carry out all the duties and responsibilities required of him/her to be performed and undertaken by the Head of the Institution where he / she will be placed in the discharge of the patient care and maintenance of records and such other clinical and technical duties as may be assigned to him/her by the aforesaid authorities from time to time in the interest of efficient patient care and running of the hospital.

5. CANCELLATION OF REGISTRATION

- a) Registration may be cancelled on the recommendations of the Doctoral Committee based on the lack of progress as reported by the Guide and also after giving due opportunity to the candidate for defending his case.
- b) Registration may be cancelled on the candidate's own request and duly endorsed by the Doctoral Committee.

- c) Registration of the candidate will be automatically cancelled if he / she fails to submit Ph.D. thesis within six years from the date of provisional registration in the case of full-time candidates and seven years from the date of provisional registration in the case of part-time candidates.
- d) If the candidate desires to pursue the Ph.D. programme after cancellation of registration, he/she may do so after going through admission procedure as a fresh applicant.

The Services of the Ph.D. Scholar may be terminated as follows:

- I By the Institute or its authorized officers without any previous notice if the Institute is satisfied on medical evidence that the Ph.D. Scholar is unfit and is likely for considerable period to continue unfit by reason of ill-health for the discharge of his duties PROVIDED ALWAYS that the decision of the Government that the Ph.D. Scholar is unfit and is likely to continue unfit shall be conclusive and binding on him.
- II By the Institute or its authorized officers without any previous notice if the Ph.D. Scholar shall be guilty of any insubordination, intemperance or other misconduct or any breach or non-performance of any of the provisions of this agreement or of any rules pertaining to the Institution where he/she may be placed from time to time.
- III By thirty days' notice in writing given at any time during service under this Agreement by the Institute or its authorized officers to him/her without cause assigned.

6. GUIDE/SUPERVISOR

6.1 Responsibilities of guide/supervisor

6.1.1 The Guide/Supervisor carries the chief responsibility for guiding the academic progress of the candidate throughout the period of study. He / she counsels the student in academic matters and provides guidance on the nature of course work and research, the standards expected, the adequacy of progress and the quality of work. The guide/supervisor shall offer feedback on all matters pertaining to the completion of a successful dissertation namely content, cohesiveness, originality, research standards, structure and documentation and writing style. The guide/supervisor will not allow the dissertation to be submitted for approval unless it is completed to his or her

satisfaction. The co-guide/ co-supervisor should be a faculty member of the institution.

6.2 Eligibility criteria for a Guide/Supervisor

Essential criteria (each gets 3 points)

1. Must be a regular (not contractual) faculty member of AIIMS Kalyani.
2. Should have at least 3 original papers as first author or as corresponding author published within the past 3 years which are published in journals which are indexed.
3. Must have at least 4 years of active service left before retirement. (from the time the student joins)

Desirable criteria (each gets one point)

1. Should have received training in research methodology, research ethics biostatistics, literature search or good clinical practices in the past three years any two trainings).
2. Has been guide or co-guide for MSc Nursing or PhD Nursing student in which research is a partial fulfilment of the programme of training.
3. Has a PhD

Total points that can be obtained is 16. Should get a minimum 13 out of 16 to be eligible as a guide.

- I. All faculty who are interested in applying to be a PhD guide shall apply with a checklist (whether satisfying essential and desirable criteria) and send a copy of their biodata along with a list of publications year-wise.

- II. The hard copy will be put into an envelope marked Application for Ph.D. guide and submitted to the Director's office with a covering letter. The Director will approve the faculty as a guide for the Ph.D. program.

6.3 Total number of students

A Supervisor may not guide more than five students at any given time and this maximum number includes full-time students including students from other universities. The Director is empowered to decide on the enrolment of additional candidates on a case-to-case basis and subject to the availability of facilities, up to a maximum of five candidates per guide. This number shall not include the candidates registered under a co-guide. No guide may take on more than two candidates in a given year.

6.4 Change of guide

Change of supervisor/guide shall be permitted within two years of the provisional registration with the approval of the Ph.D. Research Monitoring Committee and the Director on valid grounds.

6.5 Logistic issues

6.5.1 To ensure the successful and timely completion of the program, it is essential that supervisors and their students maintain regular contact. Supervisors must give their students advance notice if they plan to be absent from the Institute for an extended period of time of more than 3 months and make suitable arrangements with the student and the Director for the continued supervision of the student. If it is not feasible for the Supervisor and the student to maintain regular contact during the Supervisor's extended absence, one of the Department Members of the Doctoral Committee should be asked to take on the Supervisor's responsibilities during the given period. In case of the supervisor leaves the Institute permanently or is on deputation elsewhere or otherwise for a period of more than one year, the candidate may be permitted to change the topic of research, if necessary, with the change of the guide. The duration of research will be the same if the topic of research remains the same. If there is a change in the topic, the minimum duration of research will be decided by the Doctoral Committee and the Ph.D. Research Monitoring Committee.

6.5.2 To accommodate interdisciplinary aspects of research, a supervisor from a related department can act as a co-guide with the permission of the Director. The number of candidates registered under co-guide shall not be taken into consideration while counting the permissible number of candidates registered

under a particular guide/supervisor. The main supervisor/guide and not the co-guide shall be responsible for the successful completion of the Ph.D. Program of a candidate.

7. INSTITUTIONS WHERE RESEARCH CAN BE DONE

A candidate may be permitted to pursue research for the Ph.D. degree in any of the following institutions:

- (a) All departments of the Institute have the necessary facilities to carry out Ph.D. research and are duly recognized for doctoral research based on the recommendation of the Ph.D. RMC.
- (b) Any other central or state Institutes/Universities, all Indian research institutes under ICMR, CSIR, DST, DBT, etc. even if they are located outside Kalyani

8. SYNOPSIS

- (a) Not less than three months before the submission of the thesis, every candidate shall submit to the Institute, through the supervisor and HoD six copies of the synopsis of the thesis, together with the title of the thesis and prescribed examination fee. The candidate shall prepare the synopsis carefully in consultation with the supervisor. The synopsis should bring out in abridged form, the aims for conducting research, work done, results, and conclusions drawn. The candidate shall make a presentation of the synopsis before the doctoral committee. The candidate shall also make a presentation in the parent department prior to the submission of the synopsis.
- (b) The Synopsis of the thesis shall not be less than six pages or exceed ten pages, typed on A4 size paper with one and half-space. The Institute shall prescribe a format for the synopsis from time to time. The candidate shall also submit two copies of the electronic version (read-only format) of the synopsis.
- (c) In case of requirement, the candidate shall submit additional copies of the synopsis on demand from the Institute.
- (d) After the submission of the synopsis and on the recommendation of the Ph.D. research monitoring committee, the Exam cell shall contact the examiners by electronic and/or regular mail to seek their consent.

9. SUBMISSION OF THESIS

- a) The Ph.D. The program culminates with the submission of a thesis of a substantial work of original research carried out by the candidate under the guidance of the supervisor.
- b) The candidate should have at least two original research papers published/accepted for publication (evidence to be submitted along with the thesis) in peer-reviewed indexed journals before submission of the thesis. The reprint/preprint should be included in the appendix of the thesis.
- c) Normally the length of the thesis shall be not more than 250 pages typed on A4 size paper with one and half-space (excluding end-notes, appendices, and bibliography). The Institute shall prescribe a detailed format for the thesis from time to time. It is recommended that the references in the thesis are written in Vancouver format. The thesis is expected to undergo an extensive revision process before it is ready to be submitted as a finished piece of work.
- d) The candidate shall submit four copies of the thesis in a softbound form and two copies in the electronic form (read-only format) to the Examination section for evaluation by the examiners. Once the thesis gets approved the candidate shall incorporate all the corrections/suggestions, if any, and resubmit two copies of the final version of the thesis in hardbound form and two copies in the electronic form (read-only format). The supervisor and the doctoral committee shall certify that the corrections/suggestions (if any) were incorporated as per the examiner/s report.
- e) The thesis should be submitted to the Institute for evaluation not later than six months after the submission of the synopsis, through the supervisor, and through the Head of the Department and Head of the Institution, along with his/her application for the Ph.D. degree.
- f) If the Candidate fails to submit the thesis within six months from the date of submission of synopsis one extension of three months may be given with approval from the Ph.D. Research Monitoring Committee and Director after which the process gets cancelled. Then, he/she shall submit the synopsis again based on the recommendations of the Doctoral Committee. The Guide /Supervisor, with the approval of the Doctoral Committee, shall submit a fresh list of examiners.

- g) One hardcopy of the thesis shall be placed in the Library of the Institution and another hard copy should be available in the departments concerned with the PhD work (this includes the department in which the candidate has registered), at least 14 days prior to the viva-voce.
- h) Supplementary papers to the thesis, printed copies of any contributions to the knowledge of the subject or of any cognate branch of science that may have been published in journals or periodicals may also be included along with the thesis or given as bibliography.
- i) The thesis shall ordinarily be submitted not later than five years from the date of registration in the case of full-time candidates and six years in the case of part-time candidates. A maximum of two extensions of six months each shall be given at the discretion of the Director on the recommendations of the Guide / Doctoral Committee after the expiry of which the registration will stand automatically cancelled. Every candidate shall submit with his/her thesis a certificate from the Supervisor under whom he / she had worked, that the thesis submitted is a record of original research work done by the candidate during the period of study under his/her supervision and that the thesis has not previously formed the basis for the award to the candidate of any Degree, Diploma, Associateship, Fellowship or other similar titles and that the thesis represents independent work on the part of the candidate.

10. VALUATION OF THESIS

- (a) Three examiners of high eminence (Board of Examiners) shall carry out an evaluation of the thesis.
- (b) A panel of seven examiners both in India (outside the Institute; at least four numbers) and abroad (at least three numbers) shall be recommended by the Doctoral Committee to the Examination Cell for evaluating the thesis and for conducting the public viva-voce examination to be held later when a candidate submits his/her thesis synopsis. The Exam cell may contact either electronically or by regular mail each member in the panel of examiners to seek their consent to be placed in the panel.
- (c) The thesis shall be referred to a Board of Examiners by the examination cell. Once all the reports reach Dean's (Exam) office, the examiner's

reports will be forwarded to the Guide/Supervisor for preparing a consolidated report.

- (d) The Board of Examiners who value the thesis shall report on the merit of the candidate for the Ph.D. degree as follows:
 - i.) The thesis to be accepted for the award of Ph.D. degree in the present form
 - ii.) The thesis to be accepted for the award of Ph.D. degree after minor corrections/revisions.
 - iii.) The thesis be revised and resubmitted for evaluation
 - iv.) The thesis be rejected
- (e) If the thesis is approved, each examiner shall submit sealed cover questions, if any, to be asked at the time of viva-voce.
- (f) When experts differ in their opinion while evaluating the thesis:

In case, all the three examiners or two out of three examiners have not commended, the thesis shall be rejected and the registration cancelled. In case, one of the three examiners have not commended and then the thesis shall be again referred to a fourth examiner either Indian or Foreign as the case may be. If the fourth examiner commends the thesis, the candidate shall be allowed for the viva- voce examination. If the fourth examiner does not commend the thesis, it shall be rejected and registration cancelled.

- (g) If the examiner/examiners insist on any correction/revision to be made in the thesis, the same shall be made by the candidate before the public viva-voce examination and certified by the Supervisor/ Doctoral Committee.
- (h) If the Examiner / Examiners explicitly suggest the requirement of the revision and re-submission for further examination, then the revised thesis duly certified by the Guide, Doctoral Committee, and the Dean (Exam) shall be sent to the same examiner for further evaluation. In the absence of such a statement or if the examiner concerned specifically instructs that the revised thesis need not be sent back to him/her, the revised thesis duly certified by the Guide, Doctoral Committee, and the Dean (Exam) shall be accepted and the candidate shall be allowed for viva- voce.

- (i) The candidate should revise and re-submit the thesis within the shortest possible period, in any case, not later than one year from the date of the communication of the notice from the Institute.
- (j) In case the candidate fails to submit the revised form of the thesis within one year, the process of thesis evaluation gets cancelled. Then, the candidate shall submit the synopsis again to start the process of thesis evaluation.

11. PUBLIC VIVA-VOCE (ORAL EXAMINATION)

- a) In cases where the thesis has been approved, and on receipt of communication from the Institute, the guide/supervisor shall coordinate the conduct of public viva-voce for the candidate.
- b) Examination cell may appoint, one external Indian examiner of the thesis, and the Doctoral Committee as a jury who will conduct the public viva-voce examination in the presence of interested members of the public. In the case where the Indian examiner of the thesis is not available, the Dean (Exam) may appoint an alternative eminent person, preferably from the panel previously submitted, for conducting the viva.
- c) The Supervisor shall fix the date and time of the viva-voce in consultation with the external examiner appointed by the Dean (Exam) for conducting the viva- voce examination. The Guide / Supervisor shall give wide publicity and at least 10 working days' notice for scheduling of the examination. The maximum time limit for conducting viva-voce shall be six months from the date of consolidation of reports. If the candidate fails to take viva-voce within six months on valid grounds, the Director/Dean can permit one six-month extension on specific requests from the supervisor through Doctoral Committee. If the candidate fails to take the viva-voce even after the extension, the Ph.D. registration gets cancelled.
- d) The Viva-voce can be held on any working day of the Institute. However, no viva-voce shall be held until the final version of the thesis is made available to the Institute.

- e) In case the Examiner conducting the viva, voce examination is not in a position to travel to the Institute, the Guide / Supervisor can arrange the viva-voce with the participation of the external examiner through video-conferencing.
- f) During the viva-voce, all original workbooks with raw experimental data, and bound full-text articles of all listed references will be displayed for examination by the audience.
- g) In the viva-voce, the Guide / Convener will introduce the External examiner who will then conduct the examination. The candidate shall make a 45 minutes presentation of the thesis. The candidate is expected to explain how he/she embarked on the project, what were the issues set out to investigate, what was achieved, the methodology adopted, and significant contributions to the existing scholarship in the field. After the presentation, the external examiner shall begin the questioning followed by the faculty present and the public. The guide/supervisor will announce the result in consultation with the external examiner.
- h) After conducting the Viva-Voce examination, the Guide/ Convener shall convey to the Dean (Exam), through the Doctoral Committee, the result of such examination endorsed by the external examiner. A candidate who is successful in the public viva-voce examination shall be declared to have qualified for the Ph.D. Degree.
- i) A candidate, who is not successful at the public viva-voce examination, may be permitted to undergo the viva-voce examination a second time, within a period of four months. In the event of he/she failing again, his / her candidature for the degree will be rejected.
- j) If the candidate passes viva-voce examination, viva-voce examiner and the Guide / Supervisor shall consolidate the recommendation and submit to the Dean (Exam) for the award of the degree based on
 1. The reports of the examiners who adjudicated the thesis and
 2. The evaluation report of the candidate's performance in the viva-voce examination.

12. AWARD OF DEGREE

The Institute shall consider the reports and decide whether the candidate is worthy of the degree of Doctor of Philosophy and may act in accordance with such decision.

- a) The Ph.D. degree awarded by the Institute shall be designated as Doctor of Philosophy of the All India Institute of Medical Sciences, Kalyani. The certificate shall not indicate the subject or specialty. The title of the thesis shall be indicated in the certificate.

13. THE INSTITUTE Ph.D. RESEARCH MONITORING COMMITTEE

The Ph.D. research monitoring committee shall comprise at least 5 teaching faculty members of the institute nominated by the Director who are eligible to be guides. This committee will normally be appointed for a period of 3 years. It shall consist of a chairman and a member secretary.

The responsibilities of the committee include the following:

1. Monitoring the functioning of the Ph.D. program of the institute and providing suggestions from time to time for improvement.
2. Scrutinization and approval of Ph.D. registration forms submitted by the Ph.D. scholars after getting the approval of the Research and Ethics committees.
3. Selection and recommendation of the following:
 - (a) Members of the doctoral committee.
 - (b) Members of the panel of examiners for the Ph.D. thesis evaluation.
 - (c) Selection of eligible guides.
4. Any other issues related to the Ph.D. program

14. PUBLICATION OF THESIS

The candidate should have at least two original research papers published/accepted for publication (evidence to be submitted along with the thesis) in Medline indexed, peer-reviewed journals before submission of the thesis. They are further encouraged to publish their remaining unpublished data in reputed journals.

15. CANCELLATION OF REGISTRATION

- a) Registration may be cancelled on the recommendations of the Doctoral Committee based on the lack of progress as reported by the Guide and also after giving due opportunity to the candidate for defending his case.
- b) Registration may be cancelled on the candidate's own request and duly endorsed by the Doctoral Committee.
- c) Registration of the candidate will be automatically cancelled if he/she fails to submit a Ph.D. thesis within five years (for full time) and six years (for part-time) from the date of registration.
- d) If the candidate desires to pursue the Ph.D. program after the cancellation of registration, he/she may do so after going through the admission procedure as a fresh applicant.

The Services of the Ph.D. Scholars may be terminated as follows:

I. By the Government or its authorized officers without any previous notice if the Government is satisfied on medical evidence that the Ph.D. Scholar is unfit and is likely for a considerable period to continue unfit by reason of ill-health for the discharge of his duties PROVIDED ALWAYS that the decision of the Government that the Ph.D. Scholar is unfit and is likely to continue unfit shall be conclusive and binding on them.

I. By the Government or its authorized officers without any previous notice if the Ph.D. Scholars shall be guilty of any insubordination, intemperance, or other misconduct or any breach or non-performance of any of the provisions of this agreement or of any rules pertaining to the Institution where he/she may be placed from time to time.

II. By thirty days' notice in writing given at any time during service under this Agreement by the Government or its authorized officers to him/her without cause assigned.

IV. Unauthorized absence of students: Unauthorized absence of students will be informed to the Students and also Parents or Local Guardians. At least 3 reminders will be issued with a gap of 10 days by the Academic Section to these students. Thereafter the action of cancellation of the registration of the concerned will be decided by the Dean/ Director, AIIMS.