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MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
SITAPURA, JAIPUR



PDCC

MGUMST

PDCC - CLINICAL CARDIOLOGY
(One Year Certificate Course)



MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
SITAPURA, JAIPUR

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Sponsoring Body : India Education Trust

Price : ` 000.00

MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
JAIPUR

Syllabus

PDCC - CLINICAL CARDIOLOGY
(One Year Certificate Course)

PDCC
Clinical Cardiology

NOTICE

1. Amendments made by the Board of Management of the University in Rules / Regulations of Post Graduate Medical Courses shall automatically apply to the Rules/ Regulations of the Mahatma Gandhi University of Medical Sciences & Technology.
2. The University reserves the right to make changes in the syllabus/books/ guidelines, fee-structure or any other information at any time without prior notice. The decision of the University shall be binding on all.
3. The Jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

One Year Certificate Course
POST DOCTORAL CERTIFICATE COURSE IN CLINICAL
CARDIOLOGY (7220)

SCHEME OF EXAMINATION

1. Theory:

- (a) There will be two Theory papers examination at the end of the academic year. Each Theory paper examination shall be of 3 hours duration and of maximum marks 80.
- (b) For each question paper there shall be a separate Internal Examiner. These papers shall be evaluated by the concerned Internal Examiners (Papers Setters).
- (c) The Paper Setter shall set the questions within the prescribed course of study of the concerned paper. There will be a set pattern of question papers duly approved by Academic Council. Model question paper for examination is annexed herewith.
- (d) It is to be noted that the Internal Examiners shall be appointed by the President of the University in consultation with the respective Coordinator of the course. This exercise shall be conducted through the office of the Controller of the Examinations of the University.
- (e) **Internal Assessment:** Internal assessment shall be of 20 marks for Each Theory paper.
- (f) **Passing Marks:** A candidate will have to obtain at least 50% marks in each Theory paper to pass. This means that he will have to score 50 marks in each paper. This shall include the marks obtained in Theory paper of 80 marks and internal assessment for that paper of 20 marks (Marks obtained in Theory paper + Marks obtained in internal assessment = the Total Marks obtained in each paper).

2. Practical and Viva-Voce Examination

There shall be one practical and viva-voce examination. It shall be conducted after the Theory examination is over. The pattern shall be as follows –

- (a) The practical and viva voce examination shall be conducted by one External and two Internal examiners. The Internal examiners shall be appointed by the President of the University in consultation with the respective Coordinator of the course. The External examiner shall also be appointed by the President out of the panel of names submitted by the Coordinator of the course through the Controller of Examinations to the President. The President may or may not consult the Coordinator before the appointment of the External practical examiner.
- (b) Total marks of the practical examination shall be equivalent to the total marks put together of the number of Theory papers in the course. It shall mean that it shall be 200.

- (c) It shall be left to the examiners – Internals and the External, to examine and evaluate the students in practical in the way they wish and award the marks without giving any specific details. The total marks obtained by the candidate in the practical examination shall be the aggregate of the marks awarded by the three practical examiners (2 Internals and 1 External) put together as one figure. This shall then be submitted to the University. For example in case of "University Advanced Post Graduate Certificate Course in Cardiology" having three practical examiners, it shall be 60 (first examiner), 50 (second examiner) plus 50 (third examiner) – total $60+50+50 = 160$, which shall be submitted as one figure to the University. The award sheet shall be signed by all the practical examiners.
- (d) A student shall be required to obtain a minimum of 50% pass marks in the practical examination. This means 100 out of 200.
- (e) A candidate who fails to obtain 50% marks shall be declared failed in the practical examination.

3. Result:

A candidate will have to obtain at least 50% marks separately in each Theory paper and a minimum of 50% marks in the practical examination for him to be declared pass.

4. Supplementary Examination:

- (a) Eligibility for the failed candidates to appear at the supplementary examination shall be as below –
 - i. Failed in Theory Paper(s) and failed in Practical – shall reappear in the respective failed Theory paper(s) and Practical examination.
 - ii. Failed in Theory paper/papers and passed in Practical examination – shall reappear only in the concerned failed Theory paper(s).
 - iii. Passed Theory papers but failed in Practical – shall reappear only in the Practical Examination.
- (b) There shall be a supplementary examination within two months of the declaration of the result of the main examination. Internal assessment marks obtained in main examination in the concerned failed paper/papers shall be carried forward for working out the result of supplementary Theory paper(s) examination. Such candidate who has secured less than 50% marks in the internal assessment will be allowed to improve his internal assessment marks in the repeat supplementary internal assessment examination.
- (c) Marks secured by the candidate in the main examination passed Theory paper(s) and/or practical of the main examination, as the case may be, will be carried forward for working out his result.
- (d) **Result –**
 - i. A candidate obtaining at least 50% marks in the supplementary Theory paper(s) and 50% marks in the supplementary practical examination, as the case may be, shall be declared successful.

- ii. A candidate who has failed in supplementary theory paper(s) examination shall have to reappear only in the failed theory paper(s) at the next main examination.
- iii. A candidate who has failed in supplementary practical examination shall have to reappear both in theory (all papers) and practical at the next main examination.
- (e) **No revaluation** of answer books either of main or of the supplementary examination shall be permitted. However, the student can apply for scrutiny of the answer books.
- (f) The candidate will be allowed to avail maximum **four attempts** including supplementary (one main + one supplementary + one main + one supplementary) to pass the examination. After that he will have to leave the course. Non-appearance at an examination shall be counted an attempt.

5. Result-Division: Successful candidates will be categorized as under –

i.	Those, securing 50% and above but less than 60% in the aggregate marks	Pass
ii.	Those, securing 60% and above but less than 75% in the aggregate marks	Pass with I Division
iii.	Those, securing 75% and above in the aggregate marks	Pass with Honours

**POST DOCTORAL CERTIFICATE COURSE IN CLINICAL
CARDIOLOGY (7220)**

1. DURATION OF THE COURSE: 1 Year

2. ELIGIBILITY: MD/DNB (General Medicine)

3. OBJECTIVES:

- (1) To develop skill and knowledge to doctors who are interested in cardiology, so that proper care and treatment for cardiac patients, can be given at every level of health care infrastructure.
- (2) It also create knowledgeable human power for setting policies, developing protocols and facilitating communication among primary care physician, patients and their families.

4. SYLLABUS:

Sub.	Maximum Marks		
	Theory	I Ass.	Practical
Paper I (7221) - Basic Cardiology	80	20	200
Paper II (7222) - Advanced Cardiology	80	20	

4.1 Theory:

Paper I (7221) - Basic Cardiology

- (1) Anatomy and Physiology of heart.
- (2) History and Physical examination.
- (3) Electrocardiogram
- (4) Exercise stress testing (TMT)
- (5) Echocardiography
- (6) Chest X-ray In cardiology
- (7) Cardiac MRI
- (8) Cardiac CT (128 slice coronary angiography)

Paper II (7222) - Advanced Cardiology

- (1) Heart Failure
- (2) Cardiac arrhythmia (Include pacemaker and other devices)
- (3) Coronary artery disease le myocardial infarction, angina.
- (4) Preventive cardiology (risk factors and managements)
- (5) Cardiac arrest and its managements.

4.2 Practical:

ECG, Imaging (Chest Xray, ECHO, TMT,
CT Angio, MRI) Viva Voce - 100 marks
Long case : 2 short case : 3 - 100 marks

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7221

Bas.Card.-I

**Post Doctoral University Certificate Course in Clinical Cardiology
including Interventional Cardiology (Main) Examination Month Year
Paper I**

Basic Cardiology
Time: Three Hours
Maximum Marks: 80
Attempt all Questions

Q.No.1	Modified Essay Type question	20
Q.No.2	Modified Essay Type question	20
Q.No.3	Short Notes (Any five out of seven)	40

MODEL PAPER

PDCC
7221

Bas.Card.-I

**Post Doctoral University Certificate Course in Clinical Cardiology
including Interventional Cardiology (Main) Examination Month Year
Paper I**

Basic Cardiology
Time: Three Hours
Maximum Marks: 80
Attempt all Questions

Q.No.1	Describe in brief about the anatomical characteristics of various cardiac chambers.	20
Q.No.2	Describe the cardiac cycle.	20
Q.No.3	Write short notes (Any five out of seven)	40
(a)	Atrial septal defect	
(b)	Differential diagnosis of chest pain	
(c)	Causes of syncope	
(d)	Causes of continuous murmur	
(e)	Differential diagnosis of ST segment elevation	
(f)	ECG criteria of LVH	
(g)	Causes of wide splitting of S2	

**Post Doctoral Certificate Course in Clinical Cardiology
(Main) Examination Month Year
Paper II**

**Advanced cardiology
Time: Three Hours
Maximum Marks: 80
Attempt all Questions**

Q.No.1 Modified Essay Type question	20
Q.No.2 Modified Essay Type question	20
Q.No.3 Short Notes (Any five out of seven)	40

**Post Doctoral Certificate Course in Clinical Cardiology
(Main) Examination Month Year
Paper II**

**Advanced cardiology
Time: Three Hours
Maximum Marks: 80
Attempt all Questions**

Q.No.1 Describe the role of radio frequency ablation in the management of supraventricular tachycardias	20
Q.No.2 Write an essay on intra-aortic balloon pump.	20
Q.No.3 Write short notes (Any five out of seven)	40
(a) Management of Hypertension	
(b) Cardiac resynchronization therapy	
(c) PTCA in coronary syndromes	
(d) Contrast ECHO	
(e) Cardiac MRI	
(f) Absolute and relative contra indication of Exercise testing	
(g) Ventricular assist devices	