SUMANDEEP VIDYAPEETH

(Declared as Deemed to be University under Section 3 of the UGC Act 1956)

Accredited by NAAC with a CGPA of 3.53 out of four-point scale at 'A' Grade Category – I deemed to be university under UGC Act - 2018 At & Post Piparia, Tal: Waghodia 391760 (Gujarat) India. Ph: 02668-245262/64/66, Telefax: 02668-245126, Website: www.sumandeepvidyapeethdu.edu.in



CURRICULUM Doctor of Medicine (D.M.) in CARDIOLOGY

Attested CTC

araney 15/2/2021

Vice-Chancellor Sumandeep Vidyapeeth An Institution Deemed to be University Vill. Piparia, Taluka: Waghodia. Dist. Vadodara-391 760. (Gujarat)

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AMENDED UP TO DECEMBER -2020

CURRICULUMFORDMCOURSEINCARDIOLOGY

PROGRAMMEOUTCOME:DM

The purpose of DM Cardiology course is to create specialists who would provide high qualityhealthcareandadvance thecauseofsciencethrough research and training.

Programmespecificoutcome:DM

POS 1. The goal of the training in DM is to have trained physicians competent to managepatients in hospital and community settings independently and serve as a teacher for trainingundergraduates/postgraduates.

POS 2. He / She should also acquire skills in supervision of paramedical staff and be able toworkasateammemberofthe healthcare providers.

POS3.Inaddition,she/heshouldbewellversed tocarryoutresearch.

POS4. Thus, the major components of the

curriculumshallcovertheoreticalknowledge,practicalandclinicalskills, attitudeskillsandtraining inresearchmethodologyandsocialcare.

POS 5. Recognize the health needs of the community, and carry out professional obligationsethicallyand in keepingwith the objectives of the national health policy.

DMCARDIOLOGY

COURSE OUTCOME (CO): At the end of the Postgraduate training in the discipline concerned the student shall be able TO to recognize the importance of Cardiology in the context of thehealthneedsofthecommunity and national priorities in the health sector.

- 1. PracticeCardiologyethically and instep with the principles of primary health care.
- 2. Demonstratesufficientunderstanding of the basic sciences relevant to Cardiology.
- 3. Identifysocial, economic, environmental, biological and emotional determinants of healthin a given case, and take them into account while planning therapeutic, rehabilitative, preventive, and promotive measures/strategies.

- 4. Diagnose and manage majority of conditions in the specialty of Cardiology on the basisofclinical assessment, and appropriatelyselected and conducted investigations.
- 5. Plan and advice measures for the prevention and rehabilitation of patients suffering from disability related to the special type Cardiology.
- 6. Demonstrateskillsindocumentationofindividualcasedetailsaswellasmorbidityandmortalit ydatarelevanttothe assignedsituation.
- 7. Demonstrate empathy and humane approach towards patients and their families and exhibit

interpersonalbehaviourinaccordancewiththesocietalnorms and expectation.

- 8. Play the assigned role in the implementation of National Health Programmes, effectivelyandresponsibly.
- 9. Organise and supervise the Cardiological Health Care services demonstrating adequatemanagerialskillsinthe clinic/hospitalinthefieldsituation.
- 10. Develop skills as a self-directed learner, recognize continuing educational needs: selectanduse appropriate learningresources.
- 11. Demonstrate competence in basic concepts of research methodology and epidemiologyandbeabletocritically analysesrelevantpublished researchliterature.
- 12. Develop skills in using educational methods and techniques as applicable to theteachingof

medical/nursingstudents,generalphysiciansandparamedicalhealthworkers.

13. Functionasaneffectiveleaderofahealthteamengagedinhealthcare, researchortraining.

Componentsofcurriculum

Section I. Statement of goals & specification of objectives.SectionII.Selection&descriptionof coursecontents(Syllabus) SectionIII.RecommendedteachinglearningmethodsandactivitiesSectionIV.Or ganizationandscheduling ofcourse SectionV.Evaluation scheme SectionVI. Recommendedbooksandotherlearningresourcematerials.

SECTIONI. STATEMENTOFGOALS&SPECIFICATIONOF OBJECTIVES A. Goal

The goalofDM Cardiologyprogrammeisto providespecializedtraininginCardiologytoproduce competent superspecialists. These specialists will be capable of providing care of thehighestordertothecardiacpatientsinthecommunityaswell asclinicaltertiarycarecentres.

They would subsequently serve as teachers, trainers, researchers and leaders in the field ofCardiology. They shall recognize the health needs of the community, & carry out professionalobligationsethically&in keepingwiththeobjectivesoftheNational HealthPolicy.

B. LearningObjectives

Ingeneral,thecourseisdesignedtotrainpostgraduates(MD)inInternalMedicine&Pediatrics,inmajorar easofcardiologylikeclinicalcardiology,coronarycare,pediatriccardiology,electrophysiology,invasiv ediagnosticandtherapeuticcardiacproceduresandvarious noninvasive diagnostic techniques and research activities. *The aim of the course is toimpart thorough and comprehensive training to the candidate in the various aspects of this sothatattheend ofthecoursehe/sheshall be ableto performthefollowing*

CognitiveDomain:

1) Todiagnosecardiovascular diseasesbasedonclinicalmethods.

2) Tointerpretrelevantlaboratory, radiological and cardiological investigations for the purpose of diagnosis

3) Toarriveat a treatment

plan/sbasedon1&2anddiscusstheprosandconswiththepatientandhisfamily.

4) Beabletocarryoutefficientmanagementofalltypesofcardiovascularemergenciesafterquicklyasse ssingthepatientandsynthesizingavailableclinicalandinvestigationalinformation.

Tokeepabreastofthecurrentknowledgeandrecentadvancesinthefieldbyselflearningand /orparticipatingincontinuing MedicalEducationprogrammes.

5) Todeliverpreventiveandrehabilitativecare.

6) Toorganizeandmanageadministrativeresponsibilitiesforroutinedaytodayworkaswell asemergent/urgent situations

7) Tounderstandthefunctionalprinciplesofvariousbiomedicalequipmentsusedininvasiveandnon invasive cardiology.

8) Tocarryoutresearch and publications in the field

9) Toteachthemedicalandotherparamedicalstudents/staffanddeveloplearningresourcematerialfor them

Skills:

Non-invasiveTechniques

Thecandidatewouldbegivenadequatetrainingduringthecoursesothathe/shewillbeabletoperformand interpretvarious non invasive techniquesincluding:

- 1. Electrocardiography
- 2. Stresstesting-ECG tread mill test, stressechocardiographyandnuclearstresstests
- 3. Holtermonitoringforarrhythmiasandischemicdisorders
- 4 Echocardiography M-mode, Two dimensional, Doppler, Color flow imaging,

transesophagealechocardiography(TEE),echo directed hemodynamicstudies.

InvasiveCardiology

The candidate would be given a dequate training so that he/she will be able

- 1. Toperformtemporarypacemakerinsertion, pericardiocentesis, central venous line insertions
- 2. Toassistinvarious interventions including valvuloplasty, coronary and congenital interventions.
- $\label{eq:constraint} \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and interpret various homodynamic parameters } \textbf{3. Toperform cardiac catheterization and to calculate and the target and the target and target$
- 4. Rightandleftheartcatheterizationandcoronaryangiographyproceduresinadultsandchildren
- 5. Electrophysiology:Tointerpretelectrophysiologicaldataandassistinelectrophysiologyprocedure s,permanentpacemaker implantation,AICDimplantation.

AffectiveDomain:

1) Toadoptethicalpracticesindealingwithpatients,colleagues,subordinatessuperiorsandhealthcar eworkers.

- 2) Topromotecordialinterpersonalrelation.
- 3) Toperformasateam.
- 4) Tolearntobea leader when theneedarises.
- 5) Tolearntoorderinvestigationsandprescribedrugsrationally.

6) Tobeaware of thicalissues inhuman and animal research

7).Takerationaledecisioninthefaceofethicaldilemmasincardiacdiseases.Demonstrate& Humane approach towards patients & their families & exhibit interpersonal behavioraccordance with social norms & expectations.

SECTIONIICOURSECONTENT

Since the students are trained with the aim of practicing as independent specialists, this coursecontest will be merely a guideline. They have to manage all types of cases and situations and seekandprovide consultation. The emphasiss hall therefore be mere on the practical management of the problem of the individual cases and the community within the available resources. Ingeneral the course of the study shall include.

1. THEORY: GENERAL TOPICS

BasicSciences

Applied basic sciences relevant to the field of Cardiology---Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology and Immunology pertaining to the Cardiovascul arsystem

ClinicalCardiology

Etiopathology, hemodynamics, clinical evaluation, investigative modalities and treatment detailsof

- a) Coronaryarterydisease
- b) Rheumaticheartdisease
- c) Congenital heartdiseaseand other paediatriccardiacdisorders
- d) Cardiacarrhythmias
- e) Heartfailure
- f) Peripheralvasculardisorders
- g) Systemichypertension
- h) Systemicdiseasesinvolvingheart
- i) Heartmusclediseases
- j) Pericardialdiseases
- k) Cardiac trauma
- I) Tumorsofheart
- m) Pulmonarythromboembolismandpulmonaryhypertension
- n) Genetics, molecular biology and immunology related to cardiology
- o) Geriatricheartdisease
- p) Generalanaesthesiaand non cardiacsurgeryinpatientswith heartdisease
- q) Pregnancyand heartdisease
- r) Epidemiologyandpreventivecardiology
- s) Other general cardiology topics including principles and basics of drug therapy, care ofpatientswithendstageheartdisease,Nuclearcardiology,CardiovascularMagneticresonanc eandCTscanoftheHeart

InvasiveCardiology

- a. Toperformtemporarypacemakerinsertion,pericardiocentesis,centralvenousline insertions
- b. Toassistinvariousinterventionsincludingvalvuloplasty, coronary and congenital interventions
- c. Toperformcardiaccatheterizationandtocalculateandinterpretvarioushomodynamicparame ters
- d. Rightandleftheartcatheterizationandcoronaryangiographyproceduresinadultsandchildren
- e. Electrophysiology:Tointerpretelectrophysiologicaldataandassistinelectrophysiologyproce dures,permanentpacemaker implantation,AICDimplantation.
- f. ToassistininterventionsforCardiacResynchronizationTherapy(CRT),CardiacResynchroniz ationTherapy–Pacemaker(CRT-P)andCardiacResynchronizationTherapy – Defebrillator (CRT-D) device implantations for patients with advanced heartfailure. To assist in implantation of Left VentricularSupport devices in heart failurepatients like Intra Aortic Balloon Pump (IABP) , Extra Corporeal Membrane Oxygenation(ECMO),LeftVentricularAssistDevice(LVAD),etc.
- g. To assist in usage of devices used in Complex Percutaneous Coronary Interventions(PCI)likeIntracoronaryimagingwithIntravascularUltrasound(IVUS)andOptical CoherenceTomography(OCT)andUsageofplaquemodificationdeviceslikeRotablation,Intra VasuclarLithotrisy(IVL)balloon

Non-InvasiveCardiology

- a. Electrocardiography
- b. Stresstesting-ECG tread mill test, stressechocardiographyand nuclear stresstests
- c. Holtermonitoringforarrhythmiasandischemicdisorders
- d. Echocardiography-M-

mode,Twodimensional,Doppler,Colorflowimaging,transesophagealechocardiography(TE E),TEEassistedusageinpediatricinvasivecardiology procedures and interventions for structural heart diseases, Usage of stressand strain imaging to detected ischemic heart disease,and echo directed hemodynamicstudies.

- e. Cardiac and peripheral CT imaging and interpretation to detect anomalous coronary arterydiseases as well as diseases of aorta, pulmonary arteries, Major Aorto Pulmonary CollateralArteries(MAPCAS), peripheralarterial diseases.
- f. Exposure to lipidology and genetic clinics to detect and manage premature atheroscleroticdiseaseinyoungpatients and those within herited cardiac diseases
- h. (BoardofStudiesletterno.:SBKSMIRC/Dean/874,dated18/06/2020andVideNotificationofBoar dofManagementResolutionRef:No.SVDU/R/3383-A/2019-20dated31/07/2020

SECTIONIII

TEACHINGLEARNINGMETHODSANDACTIVITIES

Learning in post graduateprogramshall be essentially "Autonomous &Self directed". PGstudentsareencouragedtolargelycarryoutselflearning.Theyareexpectedtoseekknowledge & skill on their own initiative. Sound knowledge of Cardiology is to be acquiredentiroly by selfstudy & by participating in various teaching activities of the department. Thefollowing organized learning experiences should be provided to the students. Time table fortheseprogramswill be drawn everysixmonths

1. Case presentation & case management in OPD & Indoor wards: The PG studentwill present cases daily on clinical rounds to the faculty members of the department. Thestudents shall be provided facilities to manage cases of higher and greater complexity byallowingthemgradedresponsibilityas the courseprogram.

2. PG lectures, Seminars, symposia, panel discussions of suitable topics: These willbe held twice a month. Topics of common interest to PGs will be covered in the program.EachPGstudentshouldpresentminimum6 seminarseveryyear.

3. Journal clubs: These will be held once a month. Each PG student should presentminimum6journalclubseveryyear.

4. Clinico-PathologicalCorrelationmeetingswillbeheldmonthlywithPathologydepartment Medical audit / fatality case discussions. PG student is expected to analyze &discussthecasesallotted tohim/herIntramuralandextramuraltrainingprograms.

5. InterdepartmentalmeetingswillbeorganizedwithCardiovascularThoracicSurgery and Pathology departments as required. PG student should actively participate inthemeetings& discuss the casesortopicsallotted.

6. Preparationandpresentationofadissertation:EveryPGstudentwillberequiredto carry out the research work under the supervision of his guide in the field of Cardiology.The thesis work can be carried out by student jointly with other departments & the facultyfrom otherdepartmentscan be optedasco-guides.

7. Participationinconferences,workshops,fieldvisits,camps,etc.andshareknowledgeandexpe rience withothers.

8. Departmentalclinicalwork:PG students shall also be allowed to perform procedures under supervision and /or delegated authority depending on the experience and proficiency gained. The Heads of units and otherconsultants and guides shall be in-charge of the supervision and delegation of authority and responsibility to work.

The PG student will be also involved in various clinical research work being undertaken in the department by the faculty members. Each student is required to participate in at least one researchprojecteveryyear.

9. Intradepartmentalpostings

Every PG student will be posted by rotation in different sections of the Cardiology departmentlike Out patient departments, Cardiology wards, Intensive Coronary Care Unit, Stress test unit,Echocardiography lab and Cardiac Catheterisation lab. A record of the observation made &lessonslearntshould bemaintained bythestudents

10. Teachingexperience:

The PG students are to participate in all aspects of teaching specially practical's, demonstration& tutorials. During their tenure, they will be working under faculty members on rotation basis

aspertheallotmentoftheteachingschedule.Thecandidatewillberegularlyinvolvedinteachingof undergraduate medical, paramedical, & nursing students as well as pediatrics postgraduatesstudents.Their teaching skill will be assessed& shall formpartoftheinternalassessment.

11. CommunityCardiology

The training of PG students will involve learning experience "Derived from" or "Targeted to" theneeds of the community. It shall therefore be necessary to expose the students to communitybasedactivities. Throughout the course of training the emphasis shall be on acquiring knowledge, skill andattitudes through first hand experiences as far as possible. The emphasis will be on self learningratherthan ondidacticlectures.

Theentireperiodshallbe'inservice'trainingprogrammebasedontheconceptof'learnasyouwork 'principle.

SECTIONIV

ORGANIZATIONOFCOURSE:

Admission

Admission to the course will be through All India Common Entrance Test conducted under theaegis ofSumandeeepVidyapeeth, At.&Po.Piparia,Ta.Waghodia,Gujarat.

Numberofstudents

Eachyear studentswillbeenrolledmaintainingateacher/studentsratioof1:1

Eligibility

M.D.orD.N.B.(MedicineorPediatrics)

Duration

Durationofcourseshallbeof3completedyearsincludingtheperiodofexamination.

Attendance

All the candidates joining the PG training program shall work as Full Time Residents during theperiod of training. It is desirable that candidates should have 100% attendance to enable thisobjective to be achieved. However a minimum of at least 80% attendance and achievement ofsatisfactory standards in both theoretical and clinical Cardiology would be required before theyare allowed to appearfortheuniversityexamination.

Leave

Residents would be entitled to 30 days leave in the first year and 36 days each in the secondandthirdyearsofresidency.

Postings/Rotations

There will be structured training program. The students are expected to learn in phasicmannerstartingwithbasiccareprogressingtoadvancedcaremanagement.

1stYear-

Out patient, Inpatient care-(which includes ward duty, ICCU duty andattendingreferralcalls). Training in Stress test/HoltermonitoringLiteraturesea rchandplanfor dissertation.

Research

- Basic techniques like review of literature for a given topic and collection of data.
- Exposure to computer for various applications.

At the end of first year residency the trainee should be able to present -

• Seminars which will have evidence embedded in the presentation and all references related to the subject matter will be incorporated. At the end of the seminar all the references will be listed and the seminar will be assessed by the facilitator.

• To introduce Basic life support (BLS) and Advanced Cardiac Life Support (ACLS) trainingforalltheFirstyearPostgraduateResidentDoctorsfromacademicyear2017-18.

□ To introduce New chapter / topic 'Intellectual Property Rights (IPR) for alltheFirstyearPostgraduateResidentDoctorsfromacademicyear2020-2021 of duration of 4hrs (Board of Studies letter no.: SBKS/DEAN/742/2021,dated 05/06/2021 and Vide Notification of Board of Management Resolution Ref no.:SVDU/R/3051-1/2020-21, dated - 29" July 2021)

List of topics :

- 1. Introduction-ConceptofIntellectualProperty,Historicalviewof Intellectual Property system in India and International Scenario, Evolution of Intellectual Property Laws in India, Legal basis of Intellectual Property Protection, Need for Protecting Intellectual Property, Theories on concept of property - Major IP Laws in India.
- 2. Types of IPR: Patents, Copyright, Trademark Industrial Designs, TradeSecrets.
- 3. Patents: Concept of Patent, Criteria of Patentability, Inventions NOT patentable, Process of Obtaining a Patent, Duration of Patents, Rights of Patentee, Limitation of rights, Infringement andEnforcement.
- 4. Copyrights: Meaning of Copyright, Copyright Vs. Moral rights, Copyrighteligibility, TermofCopyright, RegistrationofCopyright, Infringement and Remedies
- 5. Trademark: Meaning of Trademark, Criteria for trademark, Procedure for Trademark Registration, Term of protection, Infringement andRemedies.
- 6. Industrial Designs: Meaning of Industrial Designs, Rights in Industrial Designs: Nature, Acquisition and duration ofrights.
- 7. Trade Secrets: Meaning of Trade Secrets, Need to protectTrade secrets, Criteria of Protection, Procedure for registration, Infringement.
- 8. Commercialization of IPR: Traditional IP and Evolving IP, Assignment, Licensing, Cross License, Patent Pool, Negotiations, Defensive Publications, TechnicalDisclosures, Patent Pooling, Patent Trolling, Brand Management, Brand and Pricing Strategies.

2ndYear - OutpatientandInpatient Care

Traininginechocardiographyandcatheterisationlaboratory Allied postings–Cardiovascularand thoracicsurgery,Vascularintervention Radiology,Nuclearmedicine.

3rdYear-OutpatientandInpatient

CareEchocardiographyandCath

labpostings

Research projects finalization and preparing dissertation.Extramuralrotation

Extramural rotations or elective rotations for a maximum period of 2 months will be possibled uring end of the 2 ndyear of training.

The candidates can under take up to 2 months elective rotation at parent or other institutions in the country ce nters approved by the Department.

Therewillbeacontinues interaction between the Cardiology department and the allied departments to ensure that the students achieve these skills during their peripheral postings

Research

i. TwopapersforpublicationinIndexed journalbeforeappearingfor thefinalDMexam.

ii. The candidate must attend continuing education symposia, workshops, and conferencesincludingmeetingoftheCardiologicalSocietyofIndia,workshopsonEchocardiography,E lecptrophysiology,Cardiac Catheterisation etc.

Logbook

The post graduate students shall maintain a Record Book (Log Book) of the work carried out bythem & training program undergone during the period of training including details of procedurescarried out independently or assisted by the candidate. The log book will be checked by thefacultymembersimparting thetraining.

Development of attitude is a very important part of management of cardiac patients. It would bethe constant endeavor of the faculty to develop desirable attitudes in the PG trainees during the course by personal examples, interaction and group discussion. Constant watch will bemaintained during their work in the wards to ensure that this objective is being met. Although there will be no formal evaluation of attitude, some aspects of this domain would be covered during the formative evaluation asper the enclosed perform for continued internal assessment.

SECTIONV EVALUATIONSHALLCONSISTOFFORMATIVEANDSUMMATIVEASSESSMENT.

A. Formative

Wardwork Case presentationPG lecture JournalClub General assessment of attitudeinternalassessment

B. Summative

Finalexamination

A. Formativeassessment.

Thepurposeofcontinuouscourseassessmentismainly

- 1. Toensure the habits of regularity, punctuality and disciplined working amongst PG students.
- 2. Togiveperiodicfeedbackregardingtheirperformanceduringthemedicalcourse&toenablethem Totakecorrectivestepstoenhancetheirlearninginvariousareasmentioned.eg.Patientcare,research,te aching,administrationetc.
- 3. Tomonitorattainmentof clinical andtechnicalskillstoensureadequacyoftraining.

4. To make it available to the internal examiner at the time of final examination to discount thepossibility of a single adverse performance influencing the pass or fail situation of the candidate. This would give an idea of the continued performance of the candidate during the three years oftrainingtotheexternal examiners, so that candidates who have otherwise been rated assatisfactory in their internal evaluation can be given more chances in the final examinations tomore questions and overcome the adverse effects of doing badly in anyone case.

Formativeevaluationwillbecarriedout overfollowingactivitiesoftheP.G.resident.

(SeeAnnexure)

- · Ward work.
- · Casepresentation
- P.G.Lecture
- · Journalclub
- · Generalassessment of affective function attitude by medical & paramedical staff.
- · InternalAssessment

Candidates can appear for theory examination only after being certified on the basis of internalassessment. However, internal evaluation marks cannot directly be used for influencing theoutcome of the summative assessment. It cannot be used to fail a candidate who has otherwisedone well in the final examination or to pass a candidate who has done consistently bad insummative assessment. Continuous assessment will be done on an ongoing basis using alogbook coveringdaytodayperformanceofthecandidate.

SUMMATIVEASSESSMENT

FinalExamination

Eligibility

Thecandidateshouldhave

- 1. Attedanceofminimum80%percentage
- 2. Satisfactoryinternalassessment
- 3. Approvalof dissertationsubmitted

Candidatescanappearfortheoryexaminationonlyafterbeingcertifiedonthebasisofinternal

assessment.

A. Theoryexamination

(AsperDirectionNo.01/2008dtd.26/05/2008&practicalsschemeisasperrevisedpracticalmarksh eet.)

SECTION VI SUGGESTEDREADING

A. Books

NAMEOFBOOKEDITOR/AUTHORPUBLISHER

- 1. HeartDisease:ATextBookofCardiovascularMedicine.Voll&II:EugeneBraunwaldW.B.Saunders Company
- 2. Hurst'sTheHeartVoll&II:Robert.C.Schlant,R.WayneAlexander,McGraw-HillInc.
- 3. Feigenbaum'sEchocardiography:HarveyFeigenbaum,WilliamArmstrong,LippincottWilliams& Wilkins
- 4. Clinical definitionofcongenital heartdiseases:Joseph.K.Perloff,W.B.SaundersCompany
- 5. Interventional Cardiac CatheterizationHandbook: Morton J.KernMosby-YearBookInc
- 6. IntroductiontoElectrocardiography: LeoSchamroth,BlackwellSciences
- 7. Chou'sElectrocardiographyinClinicalPractice:AdultandPediatric:BorysSurawicz,TimothyKnila ns,W.B.SaundersCompany
- 8. The ECG in Emergency Decision Making: Hein J. J. Wellens, Mary Boudreau Conover, W.B.SaundersCompany
- 9. MossandAdamsHeartDiseaseinInfants,ChildrenandAdolescents:GeorgeC.Emmanouilides, Thomas A Rimonschneider, Hugh D. Allen, Howard P. Gutgesell, WilliamsandWilkins
- 10. CardiacsurgeryVol.I&II:KirklinJ.W.Barratt-Boyes,ChurchillLivingstone
- 11. TextBookofValvularHeartdisease:JosephSAlpert,JamesSDalen,LippincottWilliams&Wilkins
- 12. HeartFailure:ACompaniontoBraunwald'sHeartDisease:DouglasL.Mann,W.B.SaundersComp any
- 13. CardiacPacemakersStepbyStep:AnIllustratedGuide:S.SergeBarold,RolandStroobandt,Futur a PublishingCo
- $14.\ Cardiac Electrophysiology from cell to cell to be dside: Zipes and Jalife, W.B. Saunders Company$

15. TextbookofCardiovascularMedicine:Eric.J.Topol,LippincottWilliams&Wilkins

16. ClinicalPediatricArrhythmias:GilleteandGarson,W.B.SaundersCompany

17. PathologyofCongenitalHeartDiseases:Anton.E.Beeker,Robert.H.Anderson,Butterworths

18. EchocardiographyManual:Jae.KOh, JamilTajik, LippincottWilliams&Wilkins

19. StressTesting:PrinciplesAndPractice:Mervin.H.Ellestad,OxfordUniversityPressCo

20. Textbookofinterventionalcardiology:Eric.J.Topol,W.B.SaundersCompany

B. Journals

- 1. IndianHeartJournal
- 2. Journal of AmericanCollegeofCardiology
- 3. Circulation
- 4. Heart
- 5. European HeartJournal
- 6. NEJM
- 7. BMJ
- 8. JournalofThoracic andCardiovascularCardiology

ANNEXURE

ProformasforInternalEvaluation EvaluationformforPostgraduates'ClinicalWork (Tobecompletedoncein 6monthsbyUnitHead)

Name:

Points tobeconsidered:

- 1. Punctuality
- 2. Regularityofattendance
- 3. QualityofWardWork
- 4. Maintenanceofcaserecords
- 5. Presentationof casesduringrounds
- 6. Investigationswork-up
- 7. Bedsidemanners
- 8. Rapportwithpatients
- 9. Undergraduateteaching(ifapplicable)

10. Others:

GuidanceforScoring:1(Poor)2(Belowaverage)3 (Average)4(Above average)5(Verygood)

Score:()

Signature:

Date:

ProformasforInternalEvaluation EvaluationformforPostgraduates'PostgraduateSeminar

Name: 1. Presentation 2. Completenessofpreparation 3. Cogencyofpresentation 4. Useofaudiovisualaids 5. Understandingofsubject 6. Abilitytoanswerquestions 7. Timescheduling 8. Consultedallrelevantliterature 9. Overallperformance 10. Others: Guidancefor Scoring:1(Poor) 2(Belowaverage)3(Average) 4(Aboveaverage)5 (Verygood)Score:() Signature: **ProformasforInternalEvaluation** Evaluationformfor Postgraduates:ClinicalMeeting Name: Points tobeconsidered: 1. Completenessofhistory 2. Whetherallrelevantpointselicited 3. Cogencyofpresentation

- 4. Logicalorder
- 5. Mentionedallpositiveandnegativepointsofimportance
- 6. Accuracyofgeneralphysicalexamination
- 7. Whetherallphysicalsingsmissedormisinterpreted
- 8. Whetheranymajor signsmissedormisinterpreted
- 9. Diagnosis:whetheritfollowslogicallyfrom historyandfindings.
- 10. Investigationsrequired-
- completelist-
- relevantorder
- interpretationofinvestigations
- 11. Overall

Abilityto reacttoquestioning-Whetheranswers relevantand completeAbilityto

defend diagnosis

Abilitytojustifydifferential;diagnosisC

onfidence

Others

Guidance for Scoring: 1 (Poor) 2 (Below average) 3 (Average) 4 (Above average) 5 (Very good)

Score:()

Signature:

Date:

Date:

ProformasforInternalEvaluation Evaluationformfor Postgraduates:JournalClub

Name: Date: Points tobeconsidered: 1. Choiceofarticles 2. Cogencyofpresentation 3. Whetherhehas understoodthepurposeofthearticle 4. Howwelldidhe defendthearticle 5. Whethercrossreferences havebeenconsulted 6. Whetherotherrelevantpublicationshave beenconsulted 7. HisOverallimpression ofarticles/fgood-reasons: Ifpoor-reasons: 8. Audiovisualaids 9. Responsetoquestioning 10. Overallpresentation 11. Others: Guidancefor Scoring:1(Poor) 2(Belowaverage)3(Average) 4(Aboveaverage)5

(Verygood)Score:()

Signature:

Logbook(Performance recordbook)

MaintenanceofperformancerecordLobbookismandatory.Certifiedandassessedcopyshouldbemadea vailable at thetimeofpracticalexaminationforreviewbyexaminers.

LogBook shouldcontain:

1) Certificatedulysignedbyteacher, headofdepartment, headofinstitute-stating –Drhas workedindepartmentfrom to

____foraperiodof3years.Thisperformance record book contain authentic record ofworkdone and assessment for last 3years.

2) Record of trainingName of the traineeName of the HospitalTraining periodName

ofteacher

3) Posting

- 4) Workingschedule
- 5) Teachingprogramme

6) PresentationatJournalclub:Date, ArticleName,Assessment

7) Seminars:Date,Topic/Subject,Assesment

8) Casepresentations:Date,Case,Teacher'ssignature

9) DeathAudit / CPC:Date,Casediscussed, Assessment&Signature

10) Procedures:Date,Nameofpatient,Type,Complicationsobserved

11) Teachingactivity:Date,Topic,Class

12) ParticipationinResearchActivity:Nameofproject,Duration

13) Conferences / Workshop attended paper presentation / Publication

