

Krishna Institute of Medical Sciences Deemed to be University, Karad

Department of Medicine PG Diploma in Diabetic Educator

**Programme name: PG Diploma in
Diabetic Educator**

**Course name: Paper I
Code No.:1304-11**

Code no.:1304

PG Diploma in Diabetic Educator

One-year course

Preamble:

The PG Diploma in Diabetic Educator is initiated in response to the growing need for academically trained physician in Diabetes mellitus in India. The PG Diploma in Diabetic Educator is based in the Department of Internal Medicine. The program encompasses acute, ambulatory, community, and long term care experiences. Krishna Institute of Medical Sciences is a modern, well-equipped and sophisticated teaching institute. Offer a one-year course to support the career of emerging leaders in diabetes care and education. The PG Diploma in Diabetic Educator reinforces long-term goals by both organizations to build on existing research in diabetes care and enhance health outcomes for people with diabetes, prediabetes and other cardio-metabolic conditions.

Objectives:

The overall goals and objectives for PG Diploma in Diabetic Educator are to gain extensive experience in the diagnosis and ongoing management of Diabetes mellitus patients with multiple medical problems across a variety of health care settings. The PG Diploma in Diabetes Educator is an evolving specialty overlapping multiple primary specialties, increasing the need to consolidate the field and to promote awareness, continuing education and research in this field. Goals and objectives have been established for the PG Diploma in Diabetic Educator. These are primarily aimed at

1. Gaining experience in the daily management and provision of continuity care to Diabetic patients.
2. In general the expectations of fellows include demonstration of medical knowledge, comprehension of pathophysiology, development of differential diagnoses, and formulation of management plans and dissemination of plan of care by presentations in various clinical settings in patients with Diabetes mellitus.
3. The care and management of in patients with Diabetes mellitus will be specifically addressed.
4. The fellows are also active members of interdisciplinary teams and teach internal residents and medical students.
5. To participate and contribute in research work
6. With the help of this program, students will be able to learn various important aspects about Diabetes such as its causes, diagnosis, prevention and cure. On completion of this

program, students can go for various jobs such as he/ she could become a Diabetologist, Researcher, Endocrinologist, Teacher/ Lecturer etc. Students can also opt for higher studies in the field of Diabetology after the completion of this program.

Hospitals is accredited by National Accreditation Board for Hospitals & Healthcare Providers (NABH)

- Duration:** One Year
- Annual intake:** 1 or 2 Fellow per year
- Eligibility:**
M.D.or DNB.General Medicine/Pediatrics: University recognized by the Medical Council of India. The basic qualifications must be from a MCI recognized university. [MD Medicine /- 1 year course, DNB Medicine- 1 year course]
- Fee:** As per University policy
- Selection method:** Entrance Examination conducted by the University
- Faculty:** Dr. V.C. Patil, Dr. Mrs. Gauri Tamhankar
- Infrastructure:** OPD, Total Wards-5 (Bed capacity 210), ICUs-4 (Bed Capacity 28), Side Lab- 2, Seminar Halls- 2, Museum-1 etc
- Contributing department/s:** Cardiology, Neurology, Surgery, Nephrology etc.
- Medium of instruction:** English
- Attendance:** 100%
- Syllabus / course content (semester wise) :**
 - Theory
 - Practical
- Curriculum (Duration of course: 1 year)**
 - 3 Months: Internal Medicine
 - 3 Months: Specialty and other endocrinal related diseases
 - 6 Months: Diabetology and related other endocrinal diseases

Syllabus: PG Diploma in Diabetic Educator

Syllabus / Competencies: The candidate must have gained experience in the diagnosis and treatment of patients from various disciplines with serious medical and surgical diseases. During the training the candidate must gain knowledge in two aspects - The knowledge about pathophysiology, diagnosis and treatment of a series of disease processes and skills of specific procedures and interventions that the candidate must be able to perform. While pursuing PG Diploma in Diabetic Educator course, students are required to study the below mentioned subjects.

General: Pharmacology, pharmacokinetics and drug interactions of drug therapy used in Diabetes mellitus.

Infections: Severe infection due to aerobic and anaerobic bacteria, viruses, fungal and parasites, nosocomial infection, Diabetes mellitus and infection control practices.

Metabolic & Nutritional: Fluid electrolyte and acid-base disorders diabetes, monitoring of nutrition including DKA and hyperosmolar state

Renal: Oliguria, AKI, CKD, in Diabetes mellitus

General Aspects:

1. Measurement of severity of illness and outcome assessment.
2. Exposure to clinical research, ethical and legal aspects of Diabetes mellitus.
3. Participation in regional and national CME's, seminars, conferences and workshops in Diabetes care

Part I	Part II
1. Introduction to Diabetes/History of Diabetes	1. Diabetic ketoacidosis and hyperosmolar non-ketotic hyperglycaemia
2. Diagnosis and Classification of Diabetes	2. Hypoglycaemia
3. Public Health Aspects of diabetes	3. Control and complications
4. Normal physiology of Insulin secretion and action	4. Diabetic eye disease
5. Epidemiology and Etiology of type 1 diabetes	5. Diabetic nephropathy
6. Epidemiology and Etiology of type 2 diabetes	6. Diabetic neuropathy
7. Insulin resistance and Metabolic syndrome	7. Blood lipid abnormalities
8. Other types of Diabetes	8. Hypertension in diabetes
9. Diabetes control and its Measurement	9. Macrovascular disease in diabetes
10. Management of type 1 diabetes	10. Foot problems in diabetes
11. Management of type 2 diabetes	11. Genitourinary problems in diabetes
12. Global, National and regional strategies for control of Diabetes	12. Gastrointestinal problems in diabetes
	13. Skin and connective tissue disorders in diabetes
	14. Psychological and psychiatric problems in diabetes
	15. Microvascular disease in diabetes
	16. Pregnancy and diabetes
	17. Diabetes in childhood
	18. Diabetes in old age
	19. Diabetes and lifestyle
	20. Organization of diabetes care: Diabetes specialist nursing, diabetes education and general practice
	21. Future directions in diabetes management & Research

COMPETENCIES: A Record of competencies will be issued by the recognized teacher/guide at the end of training. The following are the competencies that shall be assessed and signed after the end of each posting.

1. Should be able to manage DKA and all diabetes mellitus complications
2. Should be able to triage and prioritize patients appropriately.
3. Should be able to obtain a history and perform an accurate clinical examination.
4. Should be able to undertake timely and appropriate investigations
5. Should be able to perform ECG and interpret the results

6. Should able to recognize and manage electrolyte, glucose and acid-base disturbances.
Should able to monitors and responds to trends in physiological variables
 7. Co-ordinates and provides nutritional assessment and support to diabetic patients
 8. Procedures for prevention of infections: Hand washing, disinfection & sterilization surveillance, and fumigation Universal Precautions.
 9. Cardiopulmonary resuscitation, Basic cardiac life support
- The PG Diploma in Diabetic Educator includes additional training in nutrition, obesity, pediatric diabetes, diabetic foot and wound care, inpatient diabetes management, gestational diabetes and high-risk pregnancy, type 1 diabetes, insulin pumps, bariatric and geriatric diabetes.

Semester I

A) Paper – I

a) Theory - 135 Hrs. (Credits – 9)

1. Introduction to Diabetes/ History of Diabetes
2. Diagnosis and Classification of Diabetes
3. Public Health Aspects of diabetes
4. Normal physiology of Insulin secretion and action
5. Epidemiology and Etiology of type 1 diabetes
6. Epidemiology and Etiology of type 2 diabetes
7. Insulin resistance and Metabolic syndrome
8. Other types of Diabetes
- 9 Global, National and regional strategies for control of Diabetes

b) Practical - (Hrs 270, Credits – 9)

1. Diabetes control and its Measurement
2. Management of type 1 diabetes
3. Management of type 2 diabetes

SEMESTER 1:

Course	Course title	Number of hours /semesters		Total	Number of credits per semester		Total
		Theory	Practical		Theory	Practical	
Paper I	Theory						
	Introduction of diabetes. Diagnosis, epidemiology,	150	-	150 hours	10	-	10

	etiology of diabetes						
	Practical	-	-	-	-	-	-
	Management of diabetes	-	270	270	-	9	9
	DSE			-	-	-	
	Metabolic syndrome	60	-	60	4	-	4
	Newer treatment in diabetes	-	-	-	-	-	-
	Diabetes and atherosclerotic disease	-	-	-	-	-	-
	practical	-	90	90	-	3	3
	Total	210	360	570	14	12	26

Semester – II

A) Paper I

a) Theory (Hrs 150 Credits – 10)

- i. Diabetic ketoacidosis and hyperosmolar non-ketotichyperglycaemia
- ii. Hypoglycaemia
- iii. Control and complications
- iv. Diabetic nephropathy
- v. Diabetic neuropathy
- vi. Blood lipid abnormalities
- vii. Hypertension in diabetes
- viii. Macrovascular disease in diabetes
- ix. Genitourinary problems in diabetes
- x. Gastrointestinal problems in diabetes
- xi. Microvascular disease in diabetes
- xii. Diabetes in childhood
- xiii. Diabetes in old age
- xiv. Diabetes and lifestyle
- xv. Organization of diabetes care: Diabetes specialist nursing, diabetes education and general practice
- xvi. Future directions in diabetes management & Research

b) Practical - (Hrs 210, Credits – 7)

1. Diabetic eye disease

2. Foot problems in diabetes
3. Skin and connective tissue disorders in diabetes
4. Pregnancy and diabetes
5. Psychological and psychiatric problems in diabetes

SEMESTER 2:

Course	Course title	Number of hours per semester		total	Number of credits per semester		total
		Theory	practical		theory	practical	
Paper I	Theory						
	Diabetic ketoacidosis, diabetic complications.	150	-	150	10	-	10
	Practical	-	-			-	
	Diabetic eye disease, foot disease, skin and connective tissue disorders , pregnancy and diabetes, psychiatric problems	-	210	210	-	7	7
	<ul style="list-style-type: none"> • Diabetic foot Care • Self-care in Diabetic 	60	90	150	4	3	7
	Total	210	300	510	14	10	24

PG Diploma in Diabetic Educator: Examination

Eligibility for appearing in Exam of: PG Diploma in Diabetic Educator Candidates are eligible to appear for the exam after satisfactory completion of the specified training period.

In-training assessment of candidates: Candidates are assessed at regular intervals by the teacher for progress towards appropriate goals. The Training & Assessment Records competencies record book will be maintained by PG Diploma in Diabetic Educator candidates

under the supervision of their teachers that will track the attainment of specified competencies in Diabetes care.

Training & Assessment Records should be duly filled. (Mandatory)

Written exam: It consists of multiple-choice questions (MCQs, SAQs, and LAQs). The written exam for the PG Diploma in Diabetic Educator will be held every year in August

Oral exam: The oral exam is conducted by a panel of examiners over one day and is taken in two parts,

A. Case discussion: Two typical ICU case scenarios (each case scenario by two examiners) on which questions will be asked by the examiners.

B. Table viva: stations

1. Table viva on emergency management of DM complications and viva on Drugs in DM.
2. Table viva on interpretation of ECG's, lab reports, X-rays, CT scans
3. Table viva on setting up of ABGA and hemodynamic monitoring
4. Table viva on commonly used drugs.

Teaching-learning method: Interactive lectures, Problem based learning, case-based learning, bed side clinic, case discussion, CMEs, Conferences, workshop

Assessment pattern: Periodic assessment in the department (formative assessment)

Credit based University Examination

Credits system:

Log book:

Candidate is required to maintain proper record of teaching events and experiences obtained in log book. Internal assessment will be based on the evaluation of the log book. The record will include academic activities as well as the presentations and procedures carried out by the candidates.

Text books:

1. Harrison's Principles of Internal Medicine, 20e. J. Larry Jameson, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, Joseph Loscalzo.
2. Textbook of Diabetes (2 volume set) 3rd Edition by John C. Pickup (Author), Gareth Williams (Author); ISBN-10 :063205915X
3. Textbook of Diabetes 5th Edition by Richard I. G. Holt (Editor), Clive Cockram (Editor), Allan Flyvbjerg (Editor), Barry J. Goldstein (Editor) ISBN-10 :9781118912027

Reference books:

1. International Textbook of Diabetes Mellitus, 2 Volume Set 4th Edition by R. A. DeFronzo (Editor), E. Ferrannini (Editor), Paul Zimmet (Editor), George Alberti (Editor)

Research projects:

1. Carotid intima media thickness and its relation to ischemic stroke and coronary artery disease in patients with type 2 diabetes.
2. The effects of RBC parameters on HBA1C and random blood sugar levels in Diabetic diagnosis.

Generic Elective:

Diastolic dysfunction by 2 D Echo and tissue doppler study among Diabetic and non- Diabetic subjects: A Comparative study.

Rotation in other departments:

1. Surgery
2. Dermatology
3. Cardiology
4. Ophthalmology
5. Gynaecology.

Examination Pattern: -

Internal assessment examination will be converted to of 20 marks theory and 20 marks practical and will be added in End semester examination.

End semester examination:

Question Paper Pattern:

Theory: 80 Marks

Answer all the questions.

- I. Multiple Choice Question (MCQ) = $20 \times 20 = 20$
- II. Essay question: $20 \times 1 = 20$
- III. Long Answers (Answer 2 out of 3) = $2 \times 10 = 20$
- IV. Short Answers (Answers 4 out of 6) = $4 \times 5 = 20$

Total = 80 Marks

Practical:

Oral Examination: 30 Marks

Practical Examination 50 Marks

Total Marks: 80.

Total exam marks for end semester are 100 marks theory and 100 marks practical.

1. Promotion and award of grades

A student shall be declared PASS and eligible for getting he/she secures at least 50% marks in that particular course including internal assessment.

2. Carry forward of marks

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified, then he/she shall reappear for the end semester examination of that course. However, his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

3. Improvement of internalassessment

A student shall have the opportunity to improve his/her performance only once in the Sessional exam component of the internal assessment. The re-conduct of the Sessional exam shall be completed before the commencement of next end semester theory examinations.

Grading ofperformances

Letter grades and grade points allocations:

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course. The letter grades and their corresponding grade points are given in table I

Table –I Letter grades and grade points equivalent to Percentage of marks and performances

Percentage of Marks Obtained	Letter Grade	Grade Point	Performance
90.00 – 100	O	10	Outstanding
80.00 – 89.99	A	9	Excellent
70.00 – 79.99	B	8	Good
60.00 – 69.99	C	7	Fair
50.00 – 59.99	D	6	Average
Less than 50	F	0	Fail
Absent	AB	0	Fail

A learner who remains absent for any end semester examination shall be assigned a letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course.

18. The Semester grade point average (SGPA)

The performance of a student in a semester is indicated by a number called 'Semester Grade Point Average' (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester. For example, if a student takes five courses (Theory/Practical) in a semester with credits C1, C2, C3, C4 and C5 and the student's grade points in these courses are G1, G2, G3, G4 and G5, respectively, and then students' SGPA is equal to:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4 + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F and ABS grade awarded in that semester. For example, if a learner has a F or ABS grade in course 4, the SGPA shall then be computed as:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4 * \text{ZERO} + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the VIII semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all VIII semesters and their courses. The CGPA shall reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade on subsequent examination(s) the CGPA shall only reflect the new grade and not the fail grades earned earlier. The CGPA is calculated as:

$$\text{CGPA} = \frac{C_1S_1 + C_2S_2 + C_3S_3 + C_4S_4 + C_5S_5 + C_6S_6 + C_7S_7 + C_8S_8}{C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + C_7 + C_8}$$

where C₁, C₂, C₃,... is the total number of credits for semester I,II,III,... and S₁,S₂, S₃,...is the SGPA of semester I,II,III,.... .

19. Declaration of class

The class shall be awarded on the basis of CGPA as follows:

First Class with Distinction = CGPA of 7.50 and above

First Class = CGPA of 6.00 to 7.49

Second Class = CGPA of 5.00 to 5.99

20. Award of Ranks

Ranks and Medals shall be awarded on the basis of final CGPA.

21. Award of degree

Candidates who fulfill the requirements mentioned above shall be eligible for award of degree during the ensuing convocation.

Final Mark list Of University Examination

S.No.	Semester	Internal Assessment		End Semester Examination		Total	
		Theory 20 marks	Practical 20 marks	Theory 80 marks	Practical 80 marks	Theory 100 marks	Practical 100 marks
1	Semester I						
2	Semester II						

CBCS FOR Diabetic Educator**Program:** Diabetic Educator**Department:** KIMS **Subject:** Diabetic Educator**Scheme:** CBCS

Subject		Sem-I			Sem-II			Total		
		T	P	Total	T	P	Total	T	P	Total
Core-I	Hr	150	270	420	150	210	360	300	480	780
	Cr	10	9	19	10	7	17	20	16	36
Elective DSE/ AEC	Hr	60	90	150	60	90	150	120	180	300
	Cr	4	3	7	4	3	7	8	6	14
Grand Total	Hr	210	360	570	210	300	510	420	660	1080
	Cr	14	12	26	14	10	24	28	22	50

Discipline Specific Elective – Any One

- Semester I-**
1. Newer Treatment in Diabetes
 2. Diabetes and Atherosclerotic Disease

- Semester II-**
1. Diabetic foot Care
 2. Self-care in Diabetic