

GOVERNMENT OF GOA DIRECTORATE OF TECHNICAL EDUCATION

DTE BUILDING, ALTO-PORVORIM, BARDEZ, GOA, 403521

COMMON PROSPECTUS

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GCET – 2009 INFORMATION (WITH APPLICATION FORMS)

FOR ADMISSION

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THE FIRST YEAR OF PROFESSIONAL DEGREE COURSES

SESSION 2009-2010

IN

MEDICINE (M.B.B.S.) DENTISTRY (B.D.S.) ENGINEERING (B.E.) PHARMACY (B. PHARM. Sc.) ARCHITECTURE (B.ARCH) HOMOEOPATHY (B.H.M.S)

PRICE: - Rs. 300/-

SCHEDULE OF GCET

9	Expected date of result of GCET	24-05-2009
8	Dates of GCET	13 & 14-05-2009
7	Last date for issuing admit card	
6	Last date for receiving applications	17-04-2009
5	Last date for sale of prospectus	
4	Start of receiving forms for GCET	02-04-2009
3	Start of sale of prospectus	16-03-2009
2	Uploading of prospectus on website	27-02-2009
1	Announcement of dates of GCET	30-01-2009

ADMISSION COMMITTEE

(FOR ADMISSION TO PROFESSIONAL DEGREE COURSES IN GOA)

1.	Director of Technical Education or his nominee	Chairman
2.	Dean or representative of Dean, Goa Medical College, Bambolim, Goa	Member
3.	Dean or representative of the Dean, Goa Dental College, Bambolim, Goa	Member
4.	Principal or representative of the Principal, Goa College of Engineering, Farmagudi	Member
5.	Principal or representative of the Principal, P. C. College of Engineering, Verna	Member
6.	Principal or representative of the Principal, S. R. Institute of Engg. & Info. Tech., Shiroda	Member
7.	Principal or representative of the Principal, Goa College of Pharmacy, Panaji	Member
8.	Principal or representative of the Principal, P.E.S. College of Pharmacy Education & Research, Farmagudi	Member
9.	Principal or representative of the Principal, Goa College of Architecture, Panaji	Member
10	Principal or representative of the Principal, Shree Kamaxidevi Homoeopathic Medical College, Shiroda	Member
11.	Representative of the Directorate of Technical Education.	Member Secretary

Address for communication:

Chairman, Admission Committee Directorate of Technical Education Alto-Porvorim, Bardez, Goa. 403 521 Phone (0832) 2416370 Website <u>www.dtegoa.gov.in</u>

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SCHEDULE OF ADMISSION PROCESS

WORKING DAYS: MONDAY TO FRIDAY (except public holidays) WORKING TIME: 10.00 Hrs. TO 13.00 Hrs. and 14.00 TO 17.00 Hrs. ALL DATES PERTAIN TO YEAR 2009

NO.	EVENT	DATE
1.	Sale of Prospectus with GCET-09 and Admission application Forms	16-03-09(Mon) to
2.	Start of receiving of application forms for GCET-09 (FORM A)	17 –04-09(Fri) 02-04-09 (Thurs)
3.	Last date for receiving forms for GCET-09 (FORM A) at Admission Centre	17-04-09 (Fri)
4.	Last date to collect Admit Card from Admission Centre	17-04-09 (Fri)
5.	Dates of GCET-09	13-05-09(Wed) & 14 -05-09(Thurs)
6.	Result of GCET-09 (Expected)	24-05-09(Sun)
7.	Start of receiving of application forms for Admission (FORM B)	25-05-09 (Mon)
8.	Last date for receiving forms for Admission (FORM B)	05-06-09 (Fri)
9.	Display of Eligibility List at Admission Centre	15-06-09(Mon)
10	Last date for compliance with deficiencies in eligibility	17-06-09(Wed)
11.	Display of Provisional Merit List at Admission Centre	18-06-09(Thrus)
12.	Display of Final Merit List at Admission Centre	19-06-09(Fri)
13.	First Round of Admission	22-06-09(Mon) to 27-06-09(Sat)
14.	Second Round of Admission	13-07-09(Mon) & 14-07-09(Tue)
15.	Third Round of Admission	30-07-09(Thurs)
16.	Extra Round of Admission due to unexpected circumstances (if required)	As notified in news papers

Note: -1. The Directorate of Technical Education reserves the right to modify the schedule

of admission depending upon the exigency of the situations.

2. The lists shall be displayed at 5.00 pm on the designated dates.

3. The admission process will start at 10.00 a.m.

4. Admissions to all the branches shall be carried out in the following order:

a) Reserved categories 2 to 8, 10 and 11.

b) General category including seats dereserved from above.

c) Seats remaining vacant, if any to be offered to Category 9 – LA.

d) Seats remaining vacant, if any to be offered to Category 12 – OGA.

e) Order of branches: Medicine, Dentistry, Engineering, Pharmacy, Architecture and Homoeopathy.

1. INTRODUCTION

1.1 PROLOGUE

The Directorate of Technical Education, Government of Goa, has prepared this prospectus for admissions to the First Year of Professional Degree courses in the State of Goa. The information given herein pertains to Common Entrance Test and admission procedure applicable to the Government, Government-aided and un-aided colleges in Goa offering Bachelor's Degree in the fields of Architecture, Dentistry, Engineering, Medicine (Allopathic & Homoeopathy) and Pharmacy.

The Directorate of Technical Education is also authorised to process admissions for following seats, for which separate prospectuses are issued.

- 1. Direct admissions to Second Year of Degree courses for Diploma and B. Sc. Degree holders.
- 2. Diploma programmes in the Polytechnics in Goa.
- 3. Nomination to Govt. of India seats in Engineering & Technology Colleges in other States.

1.2. DEFINITIONS

The terms used in this document shall be interpreted as follows unless specifically mentioned otherwise

Admission Centre	Office/place designated for processing admission i.e. Directorate of Technical Education, Alto-Porvorim, Goa
Candidate	Applicant who desires to seek admission through this prospectus
Colleges/Institutions	Professional colleges listed in this prospectus
Competent Authority	Government of Goa, Secretary, (Tech Education) and Director of Technical Education
Director	Director of Technical Education, Government of Goa
Free Seats	Seats in Government Colleges
Government	Government of Goa
Govt. Colleges	GMC, GDC, GEC, GCP, GCA
Sanctioned Intake	Intake capacity sanctioned by AICTE and Govt.
SF Seat	Self financed seat in un-aided colleges
Un-aided Colleges	Colleges not receiving grants from the Government
University	Goa University

1.3. ABBREVIATIONS

AICTE	All India Council of Technical Education, New Delhi
AIQ	All India Quota
CET	Common Entrance Test
CoA	Council of Architecture, New Delhi
CSP	Central/State Government Employees, and Persons in Private Occupations, Reserved Category for children of
DCI	Dental Council of India
DTE	Directorate of Technical Education
DHE	Directorate of Higher Education
ESM	Ex-Servicemen, Reserved Category for
EWS	Economically Weaker Section, annual income less than Rs.2,00,000/-
FF	Freedom Fighters, Reserved Category for
GCA	Goa College of Architecture, Panaji
GCET	Goa Common Entrance Test
GCP	Goa College of Pharmacy, Panaji
GDC	Goa Dental College, Bambolim
GEC	Goa Engineering College, Farmagudi
GEN	General Category
GMC	Goa Medical College, Bambolim
Govt.	Government (of Goa)
GOI	Government of India
GN	Goan Natives, Reserved Category for
GU	Goa University
HSSC	Higher Secondary School Certificate
KM	Kashmiri Migrants, Reserved Category for
LA	Local Applicants, Category (all applicants passing HSSC from Goa)
MCI	Medical Council of India
NATA	National Aptitude Test In Architecture
NRI	Non Resident Indians, Reserved Category for
OBC	Other Backward Class, Reserved Category for
OGA	Outside Goa Applicants, Category for
OSA	Other States Applicants, Reserved Category for
PCC	Padre Conceicao College of Engineering, Verna
PES	P. E. S. College of Pharmacy, Farmagudi
PH	Physically Handicapped, Reserved Category for
PIO	Persons of Indian Origin
RIT	Rayeshwar Institute of Engineering & Information Technology, Shiroda
SC	Schedule Castes, Reserved Category for
SCI	Supreme Court of India
SKHMC	Shree Kamaxidevi Homoeopathic Medical College, Shiroda
SSC	Secondary School Certificate
ST	Scheduled Tribes, Reserved Category for

INFORMATION ON INSTITUTIONS

Sr.	College	Address	Name of the	Phone No.	Fax No.	Website	E-mail ID
no.	<u> </u>		Dean/Principal				
1	Goa Medical College	Goa Medical College, Bambolim Goa	Dr. V.N. Jindal	0832- 2458727	0832- 2458728	Nil	goamedicalcollege07@rediffmail.
2	Goa Dental College & Hospital	Rajiv Gandhi Medical Complex, Bambolim Goa 403202	Dr. Pavan Kumar Chandra	0832- 2459812-15	0832- 2459816	Nil	<u>com</u> Nil
3	Goa College of Engineering	Goa College of Engineering Farmagudi Ponda Goa 403401	Dr. Krishna M. Gupt	0832- 2336301	0832- 2336401 and 2335021	www.gec.ac.in	ppl@gec.ac.in
4	Padre Conceicao College of Engineering	Agnel Technical Education Complex Verna, Goa 403722	Dr. Luis C. Mesquita	0832- 2791266/67	0832- 2791268	www.pccegoa.org	agnelgoa@sancharnet.in
5	Shree Rayeshwar Institute of Engg. & Info Tech.	Shiv-Shail Karai Shiroda Goa 403103	Dr. N. Somayaji	0832- 2307001, 2307032	0832- 2307001	www. ritgoa.com	principal@ritgoa.com
6	Goa College of Pharmacy	18 th June Road, Panaji Goa 403001	Shri M.G. Pai	0832- 2226882/ 83	0832- 2226883	www.goagovt. nic.in/gcp	gocopharmacy@dataone.in
7	P.E. S.'s College of Pharmacy Education & Research	Post Box no. 73, Farmagudi Ponda Goa 403401	Dr. R.V. Gaitonde	0832- 2980501/ 2335020	0832- 2335020	www.pespharm a.edu.in	principal@pespharma.edu.in
8	Goa College of Architecture	Dr. T.B.Cunha Educational Complex, Altinho, Panaji Goa	Prof. Ravi Hazra	0832- 2436435, 2227144	0832- 2227144		gca_goa@sancharnet.in
9	Shri Kamaxidevi Homoeopathic Medical College & Hospital	"Shiv-Shail", Karai Shiroda-Goa	Dr. Arvind Kothe	0832- 2306842/ 2307447/ 2307442	0832- 2307007	www.homoeop athycollegegoa. org	arvindkothe@indiatimes.com

2. COURSES, INTAKE AND RESERVATIONS

Courses	Duration	Seats	Institution	Code
M.B.B.S.	5 1/2	100	GMC, Bambolim	MED
B.D.S.	5 1/2	40	GDC, Bambolim	DEN
B.E (Information Technology)	4	60+6*	GEC, Farmagudi	ITG
B.E (Information Technology)	4	$60^{\#}$ +6*	P.C.C.E, Verna	ITP
B.E (Information Technology)	4	$60^{\#}$ +6*	R.I.E.I.T., Shiroda.	ITR
B.E. (Computer)	4	60+6*	GEC, Farmagudi	COG
B.E. (Computer)	4	$60^{\#}$ +6*	P.C.C.E Verna	COP
B.E. (Computer)	4	$60^{\#}$ +6*	R.I.E.I.T, Shiroda.	COR
B.E. (Electronics & Telecom.)	4	60+6*	GEC, Farmagudi	ETG
B.E. (Electronics & Telecom.)	4	$60^{\#}$ +6*	P.C.C.E., Verna	ETP
B.E. (Electronics & Telecom.)	4	$60^{\#}$ +6*	R.I.E.I.T., Shiroda.	ETR
B.E. (Electrical & Electronics)	4	60+6*	GEC, Farmagudi	EEG
B.E. (Mechanical)	4	40+4*	GEC, Farmagudi	MEG
B.E. (Mechanical)	4	$60^{\#}+6^{*}$	P.C.C.E., Verna	MEP
B.E. (Civil)	4	40+4*	GEC, Farmagudi, Ponda	CIV
B. Pharm. Sc.	4	60+6*	GCP, Panaji	PHM
B. Pharm. Sc.	4	60 [#]	PES, Farmagudi	PES
B. Arch.	5	30	GCA, Altinho, Panaji	ARC
B.H.M.S.	$5^{1/2}$	50	SKHMC, Shiroda	BHM
Total		1080+80*		

2.1COURSES OF STUDY AND INTAKE

Out of 60 seats, 15 seats are reserved for Management Quota, admission for which shall be done at Institution

*Seats under AICTE Tuition Fee Waiver Scheme

NOTE: AICTE Tuition Fee Waiver Scheme:

Government has approved AICTE Scheme on tuition fee waiver for women economically backward and physically handicapped meritorious students in technical institutes.

As per the provisions of the scheme each institution at its own option is permitted to admit upto extra 10% of its sanctioned intake or actual tuition fee waiver granted to above categories in the institutions, whichever is lowest as additional intake in the same discipline. Admissions are to be done based on the same merit list as used for sanctioned intake.

Waiver is limited to approved tuition fee only and all other fees are to be paid by the beneficiaries. Under the scheme tuition fee waiver shall be provided upto 10% of sanctioned intake of students. Distribution of tuition fee waiver shall be as follows:-

a) 50% for economically backward category (i.e. annual income of parents/guardian) less than Rs. Two lakhs fifty

thousand from all sources.

b) 33% for women candidates.

c) 16.66% for physically handicapped persons.

In the event of non-availability of students in a specific category as above benefit will be given to any other candidate of other categories mentioned above according to merit.

Tuition fee waiver shall be granted for the duration of the course, and once a student is given tuition fee waiver same shall be continued for the normal course duration.

2.2 DISTRIBUTION OF SEATS

2.2.1 ENGINEERING SEATS

Course Code	ETG	ETP	ETR	ITG	ITP	ITR	COG	COP	COR	MEG	MEP	EEG	CIV	TOTAL
General	34	18	18	33	18	18	34	18	18	22	19	34	23	307
Mgt. Quota	-	15	15	-	15	15	-	15	15	-	15	-	-	105
SC (2%)	2	1	1	1	2	1	1	1	2	1	1	1	1	16
ST (12%)	8	8	8	8	8	8	8	8	8	6	7	8	5	98
OBC (19.5%)	13	13	13	13	13	13	13	13	13	8	13	13	8	159
PH (3%)	2	2	2	2	2	2	2	2	2	1	2	2	1	24
FF (1%)	1	0	0	1	1	0	1	0	1	0	1	1	1	8
CSP (6%)	4	4	4	4	4	4	4	4	4	3	4	4	2	49
ESM (1%)	0	1	1	1	0	1	0	1	0	1	0	1	1	8
GN (2%)	1	1	2	2	1	1	2	1	1	1	1	1	1	16
NRI	1	3	2	1	2	3	1	3	2	1	3	1	1	24
Total reserved	32	33	33	33	33	33	32	33	33	22	32	32	21	402
TOTAL	66	66	66	66	66	66	66	66	66	44	66	66	44	814

2.2.2 MEDICINE, DENTISTRY, PHARMACY, ARCHITECTURE AND HOMOEOPATHY SEATS

Course Code	MED	DEN	PHM	PES	ARC	BHM
GEN	45	17	34	15+15#	14	22
SC	2	1	1	1	1	1
ST	10	4	8	7	3	5
OBC	17	7	13	11	5	8
PH	3	1	2	2	1	1
FF	1	1	1	1	0	1
CSP	5	2	4	3	2	3
ESM	1	1	1	1	1	1
GN	0	0	1	1	0	0
NRI	1	0	1	3	0	0
TOTAL RESERVED	40	17	32	30	13	20
State Total	85	34	66	60	27	42
AIQ**/ OSA/GOI	15	6	+6	-	3 + 3	8
Gross Total	100	40	72	60	30+3	50

MQ – Management Quota

Note: -

1. One seat in each Institute, over & above the intake shall be available to Kashmiri Migrants, in Degree courses in Engineering, in any one branch as per the choice of the candidate.

2. ** Vacancies of All India Quota in Medicine & Dentistry shall be filled as per directives of GOI /SCI/MCI

3. In view of SCI directives total reservation should be less than 50%. Therefore, non-statutory reservations for CSP, NRI, GN categories are restricted.

3. RULES FOR GOA COMMON ENTRANCE TEST

- 3.01 The Directorate of Technical Education, Government of Goa shall conduct Goa Common Entrance Test 2009 (GCET-09) for admissions to Professional Degree courses in Medical, Dental, Engineering, Pharmacy and Homeopathy in the State of Goa, for the academic year 2009-10. Admissions to Degree course in Architecture shall be on the basis of NATA as per details given under eligibility.
- 3.02 This prospectus shall be available at notified places on payment of Rs.300/- in cash (Extra Rs. 5/- service charge payable to designated branches of Syndicate / Nationalised Bank)
- 3.03 Outstation candidates can obtain the prospectus and application form by sending request to Director, Directorate of Technical Education, Alto- Porvorim, Goa, 403501 along with a DD of Rs.350/- payable in favour of . "Director of Technical Education" at Panaji.
- 3.04 All candidates desirous of seeking admissions to Professional Degree courses in Medicine, Dentistry, Engineering, Pharmacy and Homoeopathy in the colleges within the State of Goa (Except AIQ & OSA) and for GOI seats allotted to the State of Goa, during the academic session 2009-2010, must appear and have a valid score in GCET-09, and should fulfil other eligibility criteria for admission as given in this prospectus. Merit list for these courses shall be based only on GCET-09 score.
- 3.05 All candidates desirous of seeking admissions to Degree Courses in Architecture must **appear and have a valid score in National Aptitude Test in Architecture (NATA)**, conducted online by Council of Architecture, and should fulfil other eligibility criteria for admission as given in this prospectus. Details of the test and centres are available on website of Council of Architecture. (www. coa-india.org or www.nata.in)
- 3.06 Candidates who have already passed/have appeared or are appearing at HSSC (Std. XIIth Science) or equivalent examination, before the start of the academic session, are eligible to appear at GCET–09.
- 3.07 This Prospectus includes following documents/information:
 - a) Application Form (A) for GCET-09,
 - b) Application Form (B) for Admission to all the courses mentioned in this prospectus,
 - c) Syllabus for GCET-09 in all subjects, (Refer Annexure II)
 - d) A sample Objective Response Sheet (ORS).
- 3.08 The applicant should submit the Application Form (A) for GCET-09 **in person** at the Admission Centre, along with a DD of Rs. 300/- payable in favour of "Director of Technical

Education" at Panaji, and three identical photographs as indicated, and obtain the Photo-Admit Card, from the Admission Committee, on the same day.

- 3.09 Incomplete Application Forms shall not be accepted. The Application Form for GCET-09 shall not be accepted by post or through messenger. Forms shall not be accepted after the last date of submission mentioned in the prospectus.
- 3.10 For important dates in the schedule of GCET-09 refer inner side of front cover of this prospectus.
- 3.11 Candidates are permitted to appear only for the subjects, which they have studied and registered for, at H.S.S.C. examination.

	Subject	Code	Date	Time	Duration
1	Physics	PY	13.05.09	10.00 to 12.00 hrs	Two hours
2	Chemistry	СН	13.05.09	14.00 to 16.00 hrs	Two hours
3	Mathematics	MA	14.05.09	10.00 to 12.00 hrs	Two hours
4	Biology	BY	14.05.09	14.00 to 16.00 hrs	Two hours
5	Computer Science	CS	14.05.09	14.00 to 16.00 hrs	Two hours

3.12 The Goa Common Entrance Test-2009 shall be held as per following schedule.

The Goa Common Entrance Test-2009 shall be held at following centres.

S.N.	Centre	Code	Address
1	Panaji	10	Don Bosco Higher Secondary School
2	Miramar	11	Vasantrao Dempo Higher Secondary School
3	Verna	12	Fr. Agnel Multipurpose Higher Secondary School
4	Margao	13	Shri. Damodar College of Commerce
5	Vasco	14	Deep Vihar Higher Secondary School
6	Mapusa	15	Purushottam Walawalkar Higher Secondary School
7	Ponda-1	16	A. J. De Almeida High School
8	Ponda-2	17	G. V. Ms. Smt. N. J. Aguiar Higher Secondary School
9	Sanquelim	18	Govt. Higher Secondary School
10	Curchorem	19	Smt. Chandrabhaga T. Naik Higher Secondary School

3.13 The code for centre preferred, should be correctly entered on the application form. Any request for change in choice of papers and/or centre selected/allotted shall not be entertained after issue of the Admit Card. Depending on availability of accommodation at the centres, Admission Committee shall allot the examination centre, which shall be binding on the candidate. "Computer Science (CS)" subject shall be held only in 5 centres viz. Panaji, Margao, Vasco, Mapusa and Ponda-2.

- 3.14 GCET-09 shall be based on the syllabus prescribed by the Goa Board of Secondary & Higher Secondary Education, Porvorim, for Standard XIIth (Science) examination for the current year in the subjects of Physics, Mathematics, Chemistry, Biology and Computer Science (Refer Annexure II).
- 3.15 Candidates must produce 'Photo Admit Cards' for appearing in the test at the designated centre. Candidates shall be seated in the examination hall at least 15 minutes before the scheduled start of the paper.
- 3.16 No candidate shall be allowed to enter the examination hall after 30 minutes from the start of the Test and no candidate shall be permitted to leave the examination hall until the scheduled duration of the Test is completed and all the answer sheets collected by the invigilators.
- 3.17 Mobile phones, pagers, calculators and other electronic gadgets are not allowed inside the Examination Hall.
- 3.18 Any use of unfair means and acts of indiscipline on part of the candidate shall be severely punished.
- 3.19 An Objective Response Sheet (ORS), shall be used as the answer sheet, sample format of which is given at Annexure II of this Prospectus. Candidates should go through the instructions printed on the sample ORS and get familiar with its usage.
- 3.20 Each paper will consist of 75 (Seventy Five) questions to be answered in two hours. (One hundred & twenty minutes).
- 3.21 Each question shall have four choices for answers, out of which only one shall be correct.
- 3.22 Correct answer shall carry one mark for each question. There will be no negative marking for wrong/multiple answers.
- 3.23 Results will be available on website and on Notice Board at DTE. No individual score card shall be issued. Any change in schedule will be notified in designated newspapers.
- 3.24 Since candidates are permitted to retain copy of the ORS, and ORS are machine evaluated electronically, with extreme care and scrutinized, there is no provision for verification/revaluation. No correspondence in this regard will be entertained.
- 3.25 In case there is any change in schedule of operations of GCET-09, the same shall be notified in the designated newspapers. Telephonic enquiries should be avoided, as the candidates themselves will be responsible if the information received by them on telephone proves to be incorrect.

4. RULES OF ADMISSION

All notifications related to admission shall be notified in the five news papers of the State of Goa, viz Navhind Times, Herald, Gomantak (Marathi), Tarun Bharat (Marathi) and Sunaparant (Konkani). Director of Technical Education is empowered to release notifications related to admissions in the newspapers.

A. For Candidates

4.01 All applicants seeking Admission must comply with rule 3.04 and 3.05 of this prospectus.

- 4.02 The Application Form (B) for admission is also included in the Common Prospectus. These forms shall be accepted at the Admission Centre, located in the premises of Directorate of Technical Education, Porvorim, Goa, as per schedule.
- 4.03 Mere submission of Application Form (B) according to this prospectus does not confer any right/claim to the applicant, for admission to any course in professional colleges.
- 4.04 The Application Form (B) should be filled in accordance with the rules given in this chapter, by the applicant in his/her own handwriting and duly signed by him/her.
- 4.05 Two recent, identical passport size photographs (taken not earlier than 3 months from the date of application), one of which should be affixed to the Application Form (B) in the space provided and the other photograph should be affixed to the Acknowledgement Card.
- 4.06 Name of the candidate shall be entered as it appears on the SSC/HSSC certificate.

4.07 Applicant must enter all the categories he/she is eligible and wishes to apply for.

- 4.08 Applicant must note that the following combination of categories is not permissible.
 - (i) Category 1 and 7; (ii) Any of categories from 1 to 9 [except 7] and from 10 to 14. ie an applicant cannot combine any of the categories 1 to 9 (except 7) with any of the categories from 10 to 14
- 4.09 **Only one Application Form (B)** should be submitted even if the candidate intends to claim more than one category and/or more than one course of study. Requests for change in category will not be entertained after last date of submission of application form.
- 4.10 In case it is found that an applicant has submitted more than one Application Form, the application submitted last will be considered and his/her earlier application(s) and registration numbers shall automatically stand cancelled.
- 4.11 Applicant claiming seat in the reserved category of SC/ST/OBC is required to submit the caste certificate in the prescribed proforma given in Annexure I from the Competent Authority. If the required certificate is not enclosed with the form, his/her application will be treated for the General Category only, if eligible.

- 4.12 Applications shall not be accepted after last date as mentioned in the prospectus, under any circumstances. Any request for granting extension of time for submission of form or admission shall not be entertained.
- 4.13 The applicant is advised to personally submit the Application Form complete in all respects, before the due date, at the Admission Centre and obtain the Acknowledgement Card, with registration number, duly signed as proof of submission of the form.
- 4.14 Incomplete applications shall not be accepted. Incomplete applications however may be accepted, only on the last date of submission of forms, for genuine reasons, subject to condition that the Acknowledgement Card shall be issued only after complying with deficiencies, within time limit specified by the Admission Committee. The decision of the Admission Committee shall be final, in this regard.
- 4.15 Applications received after expiry of the last date shall be summarily rejected. The Admission Committee shall not be responsible for loss in transit or postal delay in receiving the application. Any correspondence in this regard shall not be entertained.
- 4.16 In case an applicant has applied for verification of HSSC marks, and his/her revised marks changes his/her eligibility or order of merit to any course, he/she should inform to the Chairman, Admission Committee, about his/her revised results in writing along with a certified copy of the revised mark sheet immediately (within 24 hours), failing which, his/her admission may be cancelled. Revised marks, if any, will be reckoned only from such point of time onwards and list of applicants already admitted shall remain unchanged.
- 4.17 Eligibility will be finalised as per the provisions of this prospectus irrespective of whether or not verification of marks has been completed by the examining authority.
- 4.18 Eligibility list with remarks regarding objections/shortfalls, if any, shall be prepared for all applicants and for all categories, including those who are not eligible, and shall be displayed on the Notice Board at the Admission Centre and also will be made available on website. Applicants should verify their eligibility from the list displayed. In case of any detected errors, they should immediately (within 24 hrs) inform the Chairman, Admission Committee, in writing, failing which Admission Committee shall not be held responsible for the consequences of such errors
- 4.19 Only those applicants who have applied in response to prospectus of 2009-2010 and submitted their applications, duly completed in all respects, at the Admission Centre, on or before the prescribed date and time (refer to Schedule of Admission process), and have valid score in GCET-2009 (NATA in case of Architecture) and satisfy the eligibility criteria laid down, will be considered for admission to professional courses.

- 4.20 For all categories, separate provisional merit lists shall be prepared and displayed as under:
 - Medicine, Dentistry and Homeopathy
 - Engineering for all eligible candidates
 - Pharmacy for all eligible candidates
 - Architecture for all eligible candidates
- 4.21 The Provisional merit lists of all professional courses and categories will be displayed on the Notice Board at the Admission Centre as per the time and date mentioned in the schedule of Admission and also will be made available on website.
- 4.22 All applicants should verify the correctness of their marks & merit position in the provisional merit list. In case of any detected errors, they should immediately (within 24 hours) inform the Chairman, Admission Committee, in writing, failing which, the Admission Committee shall not be held responsible for the consequences of such errors.
- 4.23 Merit lists will be displayed at the Admission Centre and on website as per the schedule given in the prospectus.
- 4.24 Every eligible candidate who is desirous of seeking admission shall remain present in person at the admission rounds as per specified schedule along with <u>Acknowledgement Card</u>, <u>Documents in original & fees</u>. Candidates reporting for admission rounds without Acknowledgement Card shall not be entertained. DTE reserves the right to condone these requirements.
- 4.25 Applicants present/ reporting for admission will be given an opportunity to select a seat of choice from the seats available at the point of his/her order of merit (merit number). The admission shall be treated to have been completed only after the deposit of original documents and payment of fees. Applicants granted admission during any round shall report to the respective institution within 3 working days of grant of admission, and obtain acknowledgement thereof, failing which their admission is liable to be cancelled, and/or they may not be permitted to attend further admission rounds.
- 4.26 If the applicant fails to turn up for admission rounds as specified in the admission schedule, or does not accept admission offered, he/she shall forfeit the claim of seat as per his/her turn in merit position for that round, and the seat will be offered to the next person in the merit list.
- 4.27 In case the applicant reports late for admission (during any round of admission) his/her candidature shall be considered only for the seats available, at that point of time. The list of applicants already admitted shall remain unchanged and under no circumstances such candidate shall replace the candidates already admitted.

- 4.28 The list of provisionally admitted candidates indicating the branch, institution, category, and marks will be displayed at the Admission Centre, Porvorim, only at the end of first and third round of admissions.
- 4.29 Seats remaining vacant, for whatsoever reasons, shall be filled up in the subsequent round, by following the same procedure as in the first round, and as per the given schedule. Candidates shall not approach for admissions in between the rounds.
- 4.30 Unclaimed/vacant seats if any, from the reserved categories shall be de-reserved and transferred to General Category at the end of admission of reserved category in each round. Claim of the applicants from reserved category, who remained absent during any round, shall not be accepted for such de-reserved seats.
- 4.31 An applicant listed in the merit list shall be eligible for all rounds of admission, irrespective of whether he/she has attended / availed admission in the earlier rounds or not. If the candidate has taken admission and cancelled the same for whatsoever reasons, he/she shall forfeit his/her claim for that allotted seat (i.e course and institution) in same/ further rounds of admission.

A candidate once admitted to a particular seat (i.e course and institution) under any category shall not be eligible to seek admission to the same seat (i.e. same course and same institution) again under same/ any other category (for applicants eligible for more than one category), in same / subsequent admission rounds, under vertical mobility.

- 4.32 During Second, Third and any other subsequent round of admission (if any), vacancies created in a particular category/course during the round shall be filled in the same round. Candidates interested in applying for such vacancies shall remain present till the end of that admission round.
- 4.33 The fees for admission to specific Institutions shall be accepted only in the form of Demand Draft, as mentioned in the Chapter-9. Candidate must write his/her name, registration number, college and course to which admitted, on the back of demand draft before submitting the same to the Institution.
- 4.34 All the applicants selected for admission to Engineering, Pharmacy and Architecture courses shall be given provisional admission, subject to being found medically fit. The admission of the applicant stands cancelled in case he/she is found medically unfit.
- 4.35 All the applicants selected for admission to Medicine and Dentistry courses shall be required to be first examined by the Medical Board of Goa Medical College, Bambolim and only those found medically fit, shall be admitted to these courses.
- 4.36 Applicants, who have passed the qualifying examination from Universities/ Boards other than the Goa Board of Secondary & Higher Secondary Education shall be required to produce Eligibility Certificate from Registrar, Goa University, within one month after securing the admissions, to the Head of the institution, without which the admission may be cancelled.

- 4.37 In case the candidate is admitted to any course, he/she will be required to submit the School Leaving Certificate or Transfer Certificate, as the case may be, within 15 days from the date of admission, to the Head of the Institution, failing which the admission may be cancelled.
- 4.38 The last date for admission of 15% All India Quota applicants for Medical and Dental courses shall be 22nd August, of year of admission. In case any seat(s) of this quota remains vacant, the same shall be offered to applicants from the merit list of the General Category in the special round of admission to be notified separately.
- 4.39 GOI seats are reserved and allotted by Ministry of Human Resources Development, Govt. of India, for other States/Union Territories in the institutes of Goa in Engineering, Architecture, and Pharmacy, over and above sanctioned intake capacity. These supernumerary seats shall not be available to local candidates even if they remain vacant.
- 4.40 Change in the applicant's contact details should be intimated to the Admission Centre.
- 4.41 Applications sent by post should be clearly addressed to the "Chairman, Admission Committee, Directorate of Technical Education, Porvorim, Goa 403521". Admission Committee shall not be responsible for postal delay or for applications sent to the Director of Technical Education. Last date shall also be applicable to the applications sent by post.
- 4.42 The decision of the Admission Committee & Director of Technical Education will be final in interpreting the rules of admission.

Rules, Discipline: All admitted candidates shall be required to strictly abide by the provisions of rules and regulations prescribed by Goa University/institute, as regards their conduct and discipline. Ragging in any form is strictly prohibited and in case any applicant for admission is found to have indulged in ragging in the past or if it is noticed later that he has indulged in ragging, admission may be refused or he shall be expelled from the educational institution, if his explanation is not found satisfactory.

B. For Institutes

- 4.43 All the institutes shall depute at least one faculty member as a member of the Admission Committee, who shall also act as the link officer between DTE, Admission Committee, and the Institute. This member shall be responsible for application forms, original documents of the applicants, and fees collected for that institute.
- 4.44 All Heads of the institutes covered under Centralised Admission are hereby empowered to admit candidates against the seats remaining vacant at their end, in any branch, after the third /last round of admission, with prior approval of this Directorate. The admissions shall be given strictly in order of merit. The Institutes shall follow the merit list prepared by the Admission Committee. However, if only up to five seats are vacant, and more than 5

candidates are available in the merit list, they shall be called by recorded communication in ratio of 1:3 (i.e. 3 candidates per vacant seat).

- 4.45 In case the Merit list of Centralised Admission is exhausted, fresh Merit list of new applicants shall be prepared on the same basis by the institute. All the admissions shall be done after public notification in the specified newspapers. The admission shall be granted in presence of all the candidates as done by Admission Committee. The Application Form (B) for the same shall be sold at DTE.
- 4.46 The Institutions shall not change any of the provisions of the prospectus including eligibility, fees or rules for refund, while granting above admissions.
- 4.47 The Head of the institution (and the Management in case of non Government institutes) shall be solely responsible for the settlement of any dispute, court case, etc. arising out of such admissions.
- 4.48 The Institutes shall not admit Foreign Nationals and Persons of Indian Origin without permission of the Ministry of External Affairs, Govt. of India. Such candidates should as far as possible be admitted on nomination by ICCR (Indian Council for Cultural Relations) or GOI.
- 4.49 The Institutions shall not encash/deposit the bank drafts of fees until end of third round of admission, to facilitate immediate refund of fee during change of course/institute.

C. For States /Agencies

- 4.50 This Prospectus shall be sent to all the Directorates of Technical Education immediately after publication, in order to inform details of provisions.
- 4.51 GOI candidates nominated by the concerned States shall be admitted only if they fulfil the eligibility conditions as laid down in this prospectus, other than GCET and residence, will have to obtain eligibility certificate from Goa University.
- 4.52 GOI candidates for Architecture shall have to pass NATA.
- 4.53 GOI nominees should confirm for themselves the status of hostel facilities in the Institutes before securing admissions.
- 4.54 All nominating agencies/Governments should send the candidates so as to join within one month of the date of starting of the academic session or the last date notified, which ever is earlier failing which the University may or may not grant the term due to possible "shortage of attendance". The Directorate of Technical Education, Goa shall not be held responsible for such admissions.

4.55 Applicants for 3 seats in Architecture under OSA category are not for nomination. The eligible applicants from designated States shall appear for NATA and report directly to the Principal, Goa College of Architecture on/before the last date of submission of admission forms.

5. ELIGIBILITY

For admission to Professional Degree courses included in this prospectus, an applicant must fulfil the following criteria:

5.1. NATIONALITY:

Admission to professional courses in State of Goa is open to Indian nationals fulfilling the eligibility criteria under various categories. Non-resident Indians holding Indian passport may also apply for seats reserved under NRI category. Foreign Nationals and Persons of Indian Origin holding non-Indian passport must apply to Govt. of India.

5.2. AGE:

An applicant to Degree courses in Medicine, Dentistry and Homoeopathy must have competed the age of 17 years on or before 31st December of the academic year of admission to become eligible for admission to First Year. No age limit, minimum or maximum, is specified for admission to Engineering, Pharmacy and Architecture.

5.3. VALID SCORE AT GCET-2009:

An applicant for Degree courses in Medicine, Dentistry, Engineering, Pharmacy and Homoeopathy must have appeared and obtained valid score at the Goa Common Entrance Test GCET conducted by Government of Goa for the year of admission. GCET score of the previous year/s shall not be valid. For Medicine and Dentistry Degree courses, minimum GCET score should be 50% (40% in case of SC/ST/OBC) aggregate in specified subjects. No minimum limit is specified for other courses. An applicant for Degree Course in Architecture must have appeared and obtained valid score at NATA conducted by Council of Architecture.

5.4. QUALIFYING EXAMINATION & MINIMUM MARKS:

An applicant must have passed the Higher Secondary School Certificate Examination of the Goa Board or an examination conducted by the Central Board of Secondary Education, New Delhi, or any other examination, which in scope and standard, is deemed to be equivalent to the H.S.S.C. examination of Goa Board, and must have obtained, in one and the same sitting, the minimum percentage of marks in the specific subjects, as prescribed for the admission to respective professional courses, as under.

a. First Year MBBS, BDS and BHMS

Applicant should have passed the Higher Secondary Certificate (Std. XII) examination of Goa Board of Secondary and Higher Secondary Education or its equivalent examination with English and secured not less than 50% marks in the aggregate of subjects of Physics, Chemistry, and Biology taken together at one and the same sitting. (40% for the applicants belonging to SC, ST and OBC only).

b. First Year B.E.

The applicant should have passed the Higher Secondary School Certificate (Std.XIIth) examination of the Goa Board of Secondary and Higher Secondary Education or its equivalent examination with English, Physics and Mathematics as compulsory subjects with one of the following subjects Chemistry/Bio-Technology/Computer Science /Biology and secured not less than 50% marks in the aggregate of subjects of Physics & Mathematics with one of the following subjects Chemistry/Bio-Technology/Computer Science/Biology, obtained in one and the same sitting. (40% for the applicants belonging to SC, ST and OBC only).

c. First Year B. Pharm. Sc.

The applicant should have passed the Higher Secondary School Certificate (Std.XIIth) examination of the Goa Board of Secondary and Higher Secondary Education or its equivalent examination with English, Physics and Chemistry as compulsory subjects with one of the following subjects Mathematics/Bio-Technology/Computer Science /Biology and secured not less than 50% marks in the aggregate of subjects of Physics & Chemistry with one of the following subjects Mathematics/Bio-Technology/Computer Science/Biology, obtained in one and the same sitting. (40% for the applicants belonging to SC, ST and OBC only).

d. First Year B.Arch.:

The applicant should have passed the Higher Secondary School Certificate (Std.XIIth) examination of the Goa Board of Secondary and Higher Secondary Education or its equivalent examination with Mathematics as one of the subjects and secured at least 50% marks in aggregate (45% aggregate marks for applicants belonging to SC/ST/OBC). **OR** 10+3 Diploma (any stream) recognised by Central/State Governments with 50% aggregate marks. **OR**

International Baccalaureate Diploma, after 10 years of schooling, with not less than 50% marks in aggregate and with Mathematics as compulsory subject of examination.

Applicants scoring minimum 80/200 at NATA will be eligible for admission to B.Arch.

e. Kashmiri Migrants Only in Engineering Courses:

The applicant should have passed the Higher Secondary School Certificate (Std.XIIth) examination or its equivalent examination with English, Physics and Mathematics as compulsory subjects with one of the following subjects Chemistry/Bio-Technology/Computer Science/Biology and secured not less than 50% marks in the subjects of Physics & Mathematics with one of the following subjects Chemistry/Bio-Technology/Computer Science/Biology, obtained in one and the same sitting.

f. Changes in Eligibility

In case Medical Council, Dental Council, AICTE, Council of Architecture, Pharmacy Council, any Court or any other competent authority changes the eligibility conditions and makes it specifically applicable to the proceedings of this year, the provisions of the prospectus may be modified accordingly, subject to approval of Government and the same will be duly notified.

6.1 CATEGORY 1 - GENERAL

An applicant belonging to General Category must have studied and passed Std. XIIth or equivalent examination from schools/colleges in the State of Goa and must have resided in Goa continuously for a minimum **period of 10 years** (5 years for those whose either of the parents/ grandparents is born in Goa), immediately preceding the last date/month of application OR Be son/daughter of Government of Goa deputationists or employees posted outside Goa and must have passed the qualifying examination from Central Board of Secondary Education, New Delhi or other recognised State Boards.

An applicant who is found eligible according to the above criterion in a particular year shall continue to be considered as eligible for the subsequent 3 years.

Relaxations in Residential Requirements for Category 1 to 6 & 8

a) Any period spent by the applicant outside Goa on account of posting / leave/ training / deputation of either of his / her parents being the Goa State Government Employee shall be counted towards the continuous residence of 10 years (5 years for those whose either of the parents/grand parents is born in Goa).

b) Any period spent by the applicant in another State, under the scheme of Exchange Programme as the student of Navodaya Vidyalaya from Goa, shall be counted towards the ten years continuous residence in Goa (5 years for those whose either of the parents/grand parents is born in Goa).

c) An applicant born in Goa and has studied and passed qualifying examination (Std. XIIth) from schools/colleges in the State of Goa, should have minimum residence of overall 10 years in the State of Goa, as on last date of submission of application for admission.

6.2 CATEGORY 2 - SC (2 %)

Applicants belonging to any of the following five castes (included in the list of Scheduled Castes in the State of Goa) shall be eligible under this category, on production of caste certificate from Competent Authority, provided he/she meets all other conditions of General Category and he/she or his/her forefathers belong to Goa or migrated to Goa before 16th February 1968¹(1) Bhangui, (2) Chambhar (Hadi), (3) Mahar, (4) Mahyavanshi (Vankar), (5) Mang.

¹ By Presidential Order dated 19th February 1968, the area comprising the Union Territory of Goa was recognised as State of Goa under the Goa, Daman and Diu Re-Organisation Act, 1987. Any person or his forefathers, who have migrated to Goa after the issue of the Presidential Order dated 19th February 1968, shall not be entitled to any benefit of reservation as Schedule Caste/Schedule-Tribe or Other Backward class for admission to the Professional Colleges in Goa, even if their caste is specified as Schedule Caste/Schedule Tribe or Other Backward Class in relation to the State of Goa.

6.3 CATEGORY 3 - ST (12 %)

Applicants belonging to any of the following eight castes included in the list of Scheduled Tribes in the State of Goa (Notification No. 13/14/90-SWD (Vol.II) dated 22-04-2003) shall be eligible in this category, on production of caste certificate from Competent Authority, provided he/she meets all other conditions of General Category and he/she or his/her forefathers either belong to Goa or migrated to Goa before 16th February 1968, (1) Dhodia (Halpati), (2)Dubla (Talavia), (3) Naikda (Nayaka), (4) Siddi, (5) Varli, (6) Kunbi, (7) Gawda, (8) Velip.

6.4 CATEGORY 4 - OBC (19.5 %)

Applicants belonging to any of the following castes (included in the list of Other Backward Communities in the State of Goa) shall be eligible under this category, on production of caste certificate from Competent Authority, provided he/she belongs to <u>non-creamy</u> layer of OBC community as defined by the State/Central Government, meets all other conditions of residence under the General Category and he/she or his/her forefathers belong to Goa or migrated to Goa before 16th February 1968.

1. Bhandari Naik,	9. Kharvi (I/c Christian Kharvi),	17. Nathjogi,
2. Christian Barber,	10. Kalaikar/Black Smith/Tin Smith,	18. Nhavi,
3. Christian Mahar,	11. Kumbhar (I/c Christian Kumbhar),	19. Pagi/Gabit
4. Vishwakarma /Chari/ Mesta,	12. Mahalo,	20. Rajak,
5. Dhangar,	13. Madval (I/c Christian Dhobi),	21. Satarkar,
6. Dhobi,	14. Nabhik,	22. Shimpi,
7. Gosavi,	15. Nai,	23. Thakar,
8. Koli,	16. Napit,	24. Teli,

6.5 CATEGORY 5 - PH (3 %)

In accordance with the provisions of Section 39 of the The Persons With Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act 1995 (Central Act 1 of 1996), a person suffering from not less than **40%** (**forty percent**) disability shall be eligible for the consideration under this Category. An applicant claiming consideration under this category must meet all other conditions of residence under General Category and produce a certificate from the Medical Board of Goa Medical College regarding his/her disability and ability/fitness to undergo all parts of syllabus for the course, such as theory, practical, workshop etc. The percentage of disability should be recorded on the fitness certificate. (Vide Government of Goa notification No. 13/140/87-PHD dated 20/7/88 to determine the extent of disability.) The Admission Committee reserves the right to refer the case to Medical Board of Goa Medical College & Hospital, Bambolim, in case of dispute/doubt.

6.6 CATEGORY 6 - FF (1%)

The children of Registered Freedom Fighters from Goa shall be eligible under this category provided they meet all other conditions of the General Category. For this purpose, children would mean natural offspring (i.e. children by birth) of registered F.F.

6.7 CATEGORY 7 - CSP (6%)

Applicants who don't meet the residential and other requirements of General Category and whose either of the parents belong to one of the following subcategories shall be eligible for seats reserved under this category.

- (a) An employee of Central Government and Central Government Public Sector Undertakings, including Defence and Para-Military personnel, serving in the State of Goa in the academic year preceding the year of admission or transferred to Goa till the date of submission of application for admission form. OR
- (b) An employee of Goa State Government including those of Goa State Government Public Sector Undertakings and Educational Institutions recognised by Govt. of Goa, but not an employee on daily wages / NMR / work charged. OR
- (c) A person residing in the State of Goa for the purpose of occupation/employment for a minimum continuous period of 5 years immediately preceding the month of submission of application form and the applicant must have studied and passed HSSC (Std. XIIth) examination from schools / colleges in the State of Goa.

6.8 CATEGORY 8 - ESM (1%)

In order to be eligible under this category, an applicant must be a son/daughter of Ex-Defence Service Personnel, Ex-Para-Military Force Personnel (including those permanently disabled or killed in action), registered in the State of Goa for a minimum period of three years and must have studied & passed Std. XIIth from schools/colleges in the State of Goa and must have resided in the State of Goa continuously for a minimum period of three years, (one year for those whose either of the parents/grand parents are born in Goa). Those applicants of this category who satisfy the eligibility criteria of General Category will be eligible for both the categories.

6.9 CATEGORY 9 - LA (NO RESERVATION)

All applicants who have passed qualifying examination from the schools and colleges located in the State of Goa, but do not fulfil the requirements of residential period for the categories No. 1 to 8 shall be eligible under this category. These applicants will be considered only for vacant seats in order of merit after merit list of other categories is exhausted.

6.10 CATEGORY 10 - GN (2%)

An applicant whose either of the parents/grandparents was born in Goa shall be eligible for seats reserved under this category, provided he/she does not fulfil the residence criteria of General Category. Candidates fulfilling General Category criteria shall not be considered under this category.

6.11 CATEGORY 11 - NRI (UP TO 5%)

Non-resident Indian applicants holding Indian passport shall be eligible for consideration under this category provided he/she has studied and passed qualifying examination from school/colleges located outside India, in the country of his/her residence. NRI candidate must produce a certificate issued by Indian Diplomatic Mission or Chancellery or Commission abroad under their seal stating that the father /parent of the applicant is an Indian resident in that country. One seat in each branch of study in Engineering in the Government colleges and upto 5% of self-financed seats in the un-aided colleges are reserved for the candidates under this category. Any seat remaining vacant under this category shall be reverted to the General Category. There is no provision for "NRI sponsored" seats or by payment of "equivalent amount" against "vacant NRI seats". (AICTE circular No. F.38-7/Legal/2001 dt. 03-10-2001).

6.12 CATEGORY 12 - OGA

An applicant from other States, who has passed the qualifying examination from schools and colleges outside the State of Goa, but within Indian Union, and fulfils academic eligibility conditions prescribed in this prospectus, shall be eligible for admission under this category for any seats that remain vacant after admitting all candidates in category No. 1 to 11 above.

6.13 CATEGORY - 13 OSA (3 SEATS IN ARCHITECTURE)

Three seats are reserved for candidates belonging to the States and Union Territories, which do not have facilities for Architectural Education, on the basis of an open competition (and not by nomination). The applicants of such States and Union Territories shall be eligible for admission, provided the applicants fulfil the academic eligibility as mentioned in the prospectus. The eligible applicants from above States should report directly to the Principal at the Goa College of Architecture, Altinho, Panaji, with NATA Score, on/before last date of submission of admission form.

6.14 CATEGORY 14 - KM (ON SUPERNUMERARY BASIS FOR AICTE COURSES)

As per the directives of Secretary, Govt. of India, MHRD, letter No.F10-1/96-desk (U) dated 6-5-2000 and No.F10-1/2001-desk (U) dated 13-7-2001 and confirmation by AICTE vide letter No. F.22-1218/2001 dated 19-10-2001, One seat each in the Technical / Engineering colleges shall be reserved for the children of Kashmiri Migrants staying any where in India. The seats shall be deemed to have been created for Kashmiri Migrants only on supernumerary basis and shall not be transferable. The admission shall be granted strictly on merit and there shall be no discrimination between migrants settled locally and coming from outstation.

7. CERTIFICATES AND TESTIMONIALS

Self-attested photocopies of relevant certificates and testimonials should be attached to the Application Form (B) and the same shall be tick marked in the checklist, on the form.

ESSENTIAL FOR ALL

- 7.01 Two recent, identical passport size photographs (taken not earlier than 3 months from the date of application), one of which should be affixed to the Application Form (B) in the space provided and the other photograph should be affixed to the Acknowledgement Card.
- 7.02 Statement of marks of H.S.S.C. (Std. XIIth) or its equivalent examination.

7.03 Birth Certificate from Competent Authority

- 7.04 Certificate of residence from the Mamlatdar, indicating period of continuous residence (minimum last 10 years) of the applicant in Goa, preceding the month of application.
 - a. In case, the continuous residence in Goa is less than 10 years but more than 5 years, and the applicant wants to claim, concession on the grounds of parents/grandparents being born in Goa, the birth certificate of either of the parents/grandparents from the Registrar of Births & Deaths, and documents to establish their link with the applicant.
 - b. An applicant claiming concession in period of residence under category 1 must produce attested photocopy of the Goa Government order indicating the place & period of deputation and posting outside the state of Goa or a certificate stating that he is a student of Navodaya Vidyalaya from Goa.
 - c. In case Residence Certificate is issued by Mamlatdar on or before 31/12/08, applicant shall provide documentary evidence to establish his/her continuous residence in the State of Goa., immediately preceding the last date/month of application
- 7.05 Leaving/Transfer certificate from school or college attended last, signed by the Headmaster / Principal of the institute (if applicable).
- 7.06 All those claiming concession in tuition fees (Category 1, 5, 6 & 8) must submit at the time of admission 'Certificate of Income' in original issued by Panchayat, countersigned by the Block Development Officer (for village areas) or Chief Officer of Municipalities (for Municipal areas) stating the annual income of both the parents, from all the sources (including agricultural Income).

FOR CLAIMING SPECIFIC CATEGORIES

7.07 Applicants claiming seats under SC/ST Category (2 & 3) must produce a valid Non Migrant Caste Certificate in the prescribed pro-forma (Annexure-I) from the Dy. Collector of the area concerned. Certificates issued by Village Panchayat/Mamlatdar shall not be accepted.

- 7.08 Applicants claiming seats under OBC Category (4) must produce Caste Certificate (<u>non-creamy layer</u> and <u>non-migrant</u>) in the prescribed pro-forma (Annexure I) from the Dy. Collector of the area concerned. Certificates issued by Village Panchayat / Mamlatdar shall not be accepted.
- 7.09 Applicants claiming seats under Physically Handicapped Category (5) must produce a certificate from the Medical Board of Goa Medical College regarding his/her disability and ability/ fitness to undergo all parts of syllabus for the course, such as theory, practical, workshop, etc.
- 7.10 Applicants claiming seats under the Children of Freedom Fighters of Goa Category (6) must produce a certificate in the prescribed pro-forma, from the Home Department, (Secretariat, Goa) that either of his/her parents is registered as a Freedom Fighter of Goa indicating the date and registration number.
- 7.11 Applicants claiming seats under the Children of Goa State / Central Government Employees including Goa State / Central Government/Public Sector Undertaking and Defence Personnel and Educational Institutions recognised by Govt. of Goa [7a & 7b] must produce till date Service Certificate of the parent from the Head of Office/Department about posting of the parent. The Service Certificate should indicate the full name of the parent, designation, date of transfer order, date of joining and present status of posting.
- 7.12 Applicants claiming seats under the Children of Persons staying in Goa for Purpose of Occupation Category [7c] must produce a certificate, in respect of his/her parent from employer in case of service, or certificate of establishment in case of self-employment, indicating the date and period of employment, and also residence certificate of parent/s from Mamlatdar indicating period of continuous residence (minimum five years) in Goa, preceding the date of submission of application for admission.
- 7.13 Applicants claiming seats under the Children of Ex-Servicemen Category (8) must produce a certificate from the Secretary, Rajya Sainik Board indicating the full name, the registration date, Registration Number of Ex-Serviceman and residential certificate of applicant from Mamlatdar, indicating period of continuous residence (minimum three years) in Goa.
- 7.14 Applicants claiming seats under the children of Goan Natives Category (10) must produce a certificate of nativity, (by birth in Goa), either of parents or grandparents, from the competent authority, i.e. clearly establishing their link with the applicant.

7.15 Applicants claiming seats under NRI Category must furnish the following documents:

a) A certificate from Indian Diplomatic Mission, Chancellery, or Commission abroad under their seal that the either of the parents of the applicants is an Indian Resident in that country.

b) A certified copy of the passport as proof of being an Indian Citizen or in its absence a certificate to this effect from Department of Home, Secretariat, Goa.

c) Provisional eligibility certificate from Goa University.

8. GUIDELINES FOR MERIT LIST

Merit List of the eligible candidates (as per the provisions of the prospectus) shall be prepared in the descending order of the qualifying GCET-09 marks as follows.

8.1 MBBS, BDS and BHMS

- a. The merit list shall be based on aggregate marks of GCET-2009 in the subjects of Physics, Chemistry and Biology. The candidates who have secured at least 50% aggregate (40% for SC/ST/OBC) in the subjects of Physics, Chemistry and Biology at GCET- 09 shall be considered for merit list for MBBS and BDS. There shall be no minimum marks for BHMS.
- b. In case the above marks of two or more applicants are equal, applicant with more marks in **Biology** shall be placed higher in the merit list.
- c. In case the marks in Biology are also equal, applicant with more marks in **Chemistry** will be placed higher in the merit list.
- d. If all the above are also equal, then the applicant with earlier date of birth will be placed higher in the order of merit.

8.2 BACHELOR OF ENGINEERING

- a. The merit list shall be based on aggregate marks of GCET–2009 in the subjects of **Physics and Mathematics**.
- b. In case the above marks of two or more applicants are equal, applicant with more marks in **Mathematics** shall be placed higher in the merit list.
- c. In case the marks in Mathematics are also equal, applicant with more marks in **Chemistry** will be placed higher in the merit list.
- d. In case the marks in Chemistry are also equal, applicant with more marks in **Biology/Computer Science** will be placed higher in the merit list.
- e. If all the above are also equal, then the applicant with earlier date of birth will be placed higher in the order of merit.

8.3 BACHELOR OF PHARMACY

a. The merit list shall be based on aggregate marks scored at GCET-2009 in the subjects of **Physics and Chemistry**.

- b. In case the above marks of two or more applicants are equal, applicant with more marks in **Chemistry** shall be placed higher in the merit list.
- c. In case the marks in Chemistry are also equal, applicant with more marks in **Biology/Computer Science** will be placed higher in the merit list.
- d. In case the marks in Biology/Computer Science are also equal, applicant with more marks in **Mathematics** will be placed higher in the merit list.
- e. If all the above are also equal, then the applicant with earlier date of birth will be placed higher in the order of merit.

8.4 BACHELOR OF ARCHITECTURE

- a. The merit list shall be based on aggregate of marks obtained in NATA and the aggregate marks obtained at the qualifying examination (HSSC/Diploma) added in the ratio of 1:1 i.e with 50% weightage each for NATA score and aggregate marks in qualifying examination.
 - b. In case the above combined marks are equal, applicant with higher **NATA** marks will be placed higher in order of merit.
 - c. If the NATA marks are also equal, then applicant with higher marks in **Mathematics** will be placed higher in the merit list.
 - d. If the above marks are also equal, then the applicant with earlier date of birth will be placed higher in the merit list.

9. DETAILS OF FEES & PAYMENT

(All fees are subject to revision, as approved by the Government)

9.1 FEES FOR COURSES

(Indian Rupees)

A. Government Institutions

Disciplines	Medicine/ Dentistry	Engineering	Arch.	Pharmacy
1. Admission Fee (one time only)	600	600	600	600
2. Tuition Fee (Per Semester)	14,000	7000	7000	7000
3. Institutional Fee	1,250	1,050	1,150	1,150
4. Development Fee (Per Semester)	1,000	1,000	1,000	1,000
Total	16,850	9,650	9,750	9,750

B. Self financed Institutions.

1. <u>Padre Conceicao College of Engineering, Verna</u> <u>Tuition & Development Fees (in Rupees)</u>

Fees	First Year	Second Year	Third Year	Fourth Year
Tuition fees (Per semester)	22,500	25,000	27,000	29,000
Development fees (Per semester)	5,000	5,000	5,000	5,000
Institutional fees	1050	1050	1050	1050

2. <u>Shree Rayeshwar Institute of Engineering and Information</u> <u>Technology</u>, <u>Shiroda -</u> <u>Goa</u>

Tuition & Development Fees (in Rupees)

Fees	First Year	Second Year	Third Year	Fourth Year
Tuition fees	18,000	19,000	20,000	21,000
(Per semester)				
Development fees	5,000	5,000	5,000	5,000
(Per semester)	,	,	,	,
Institutional fees	1050	1050	1050	1050

PROSPECTUS FOR PROFESSIONAL DEGREE COURSES 2009-10

Fees	First Year	st Year Second Year Third Year		Fourth
				Year
Tuition fees (Per semester)	20000	22500	25000	27500
Development fees				
(Per Semester)	5000	5000	5000	5000
Institutional fees	1150	1150	1150	1150

3. <u>Ponda Education Society's College of Pharmacy Education & Research, Ponda – Goa</u> <u>Tuition & Development Fees (in Rupees)</u>

4. <u>Shri Kamaxidevi Homoeopathic Medical College & Hospital, Shiroda- Goa</u> <u>Tuition & Development Fees (in Rupees)</u>

Fees	First Year	Second Year	Third Year	Fourth Year
Tuition fees	25,000	25,000	25,000	25,000
(Per semester)	,	*		,
Development fees	1.000	1,000	1.000	1,000
(Per semester)	,	,	,	,
Institutional fees	1,250	1,250	1,250	1,250

NOTE; ADMISSION FEES OF Rs 600/- shall be payable by candidates admitted in self financing Institutions

DETAILS OF INSTITUTIONAL FEES

Heads of Institutional Fees	Medicine/ Dentistry	Homoeopathy	Engineering	Architecture	Pharmacy
1. Gymkhana Fees (Per Term)	100	100	100	100	100
2. Annual Social Gathering (Yearly)	100	100	100	100	100
3. Student Aid Fund (Yearly)	50	50	50	50	50
4. Magazine Fee (Yearly)	100	100	100	100	100
5. Dissection charges (One time)	100	100			
6. Identity Card (One Time)	50	50	50	50	50
7. Microscope charges (One time)	100	100			100
8. Student Association (One time)				100	
9. Library Deposit (Refundable)	250	250	250	250	250
10. Caution money (Refundable)	400	400	400	400	400
Total Institutional Fees	1250	1250	1050	1150	1150

NOTE:

All the seats in PCC, RIT, PES and SKHMS are self -financing seats for the purpose of fees.
 Fees payable by Kashmiri Migrants (KM) category applicants, admitted in Self- Financing

Institutions shall be at par with fees payable for free seats in Government Institutions.

FEES FOR NRI CANDIDATES

Students admitted in NRI category shall pay admission fee (one time) of Rs.600/- by Demand Draft drawn in favour of "Director of Technical Education" payable at Panaji, for all courses and other fees (tuition fee + institutional +development fee) as specified in dollars, by D.D. drawn in favour of respective institution, as given below.

COURSE AMOUNT

Medicine \$50,000(for complete course in four equal instalments)

Engg./Arch./Pharm. \$3000 per year

HOSTEL FEES(Government Institution)

To be paid per term at the Institution towards hostel accommodation, if provided.

Hostel fees (in Rs.)	Medicine/ Dentistry/ Engineering/ Architecture/ Pharmacy
1. Hostel Rent (Per Term)	600
2. Hostel Deposit (Refundable)	500
3. Hostel Maintenance Fee	400
(Per Term)	
Total Hostel Fees	1500

9.2 CONCESSIONS IN TUITION FEES

FOR SC, ST, OBC, & EWS IN GOVERNMENT COLLEGES ONLY

Govt. of Goa offers concession in the **Tuition Fee** (only) to the students pursuing professional education, having continuous residence in Goa for 10 yrs. or more, preceding the date of application, and admitted in the Government Institutions as follows:

1. Candidates admitted against the seats reserved for the categories of **SC/ST/OBC** shall be eligible for concession of 50% for a minimum prescribed period of course of study.

2. Candidates admitted against the seats reserved for the category of **FF/PH/ESM** shall be eligible for concession of 30% for a minimum prescribed period of course of study.

3. Candidates admitted against the seats of **General, PH, FF & ESM,** categories only shall be eligible for concession of 50% for a minimum period of course of study, provided the income of both the parents from all the sources does not exceed Rs. 2,00,000/- per annum.

4. Maximum concession offered under any of above clauses shall not exceed 50%. (Combination of two clauses not permitted). There shall be no concession in unaided colleges for any category, or for the students of States other than State of Goa.

MODE OF AVAILING CONCESSION

To avail concession as above, an applicant shall follow procedure as under:

- 1. An applicant of category SC, ST, & OBC need not produce any income certificate/ file declaration.
- 2. An applicant of Category 1, 5, 6 & 8 shall have to produce an income certificate in original as per Clause 7.06 under Certificates & Testimonials.
- 3. The applicant of Category 1, 5, 6 & 8 who is unable to produce the required income

certificate shall pay the full fee at the time of admission. He may submit the same within

60 days from the date of admission and claim refund/ adjustment from the institute.

9.3 MODES OF PAYMENT OF FEES

Following fees are payable through separate bank drafts of any Nationalised or Scheduled bank to the authority mentioned against the payment.

ADMISSION FEES (ALL COURSES)

Rs. 600/- by Demand Draft drawn in favour of **"Director of Technical Education"** payable at **Panaji**

. FEES AT FULL RATE					
Course	Amount in Rs.	Bank draft drawn in favour of	Payable at		
Medicine (GMC)	16,250	Dean, Goa Medical College	Panaji		
Dentistry (GDC)	16,250	Dean, Goa Dental College	Panaji		
B.E. Free (GEC)	9,050	Principal, Goa Engineering College	Ponda		
B.E. (PCCE)	28,550	Director, PCCE	Margao		
B.E. (RIEIT)	24,050	Principal, R. Institute of E. & I. T.	Ponda		
Pharmacy (Govt.)	9,150	Principal, Goa College of Pharmacy	Panaji		
Pharmacy (PES)	26,150	P.E.S.'s College of Pharmacy Education & Research	Ponda		
Architecture (GCA)	9,150	Principal, Goa College of Architecture	Panaji		
Homoeopathy (BHMS)	27,250	Principal, Shri Kamaxidevi Homoeopathy Medical College	Ponda		

TUITION, INSTITUTIONAL & DEVELOPMENT FEES

Course	Amount @ 30%	(in Rs.) @ 50%	Bank draft drawn in favour of	Payable at
Medicine	12.050	9,250	Dean, Goa Medical College,	Panaji
Dentistry	12.050	9,250	Dean, Goa Dental College,.	Panaji
Engineering	6,950	5,550	Principal, Goa Engineering College,.	Ponda
Pharmacy	7.050	5,650	Principal, Goa College of Pharmacy,	Panaji
Architecture	7.050	5,650	Principal, Goa College of Architecture,	Panaji

B. FEES AT CONCESSIONAL RATES (for Govt. Institutes only)

In addition to the above fees of Rs. 50.00 per term, will be payable at the beginning of each term, for facilities of locker (where available)

9.4 CANCELLATION OF ADMISSION & REFUND OF FEES

All institutes and admissions covered in this prospectus are bound by these rules for the refund of fees. Institutions are not permitted to impose any other additional clause. Directorate shall not entertain any complaint by the students, for refund from any institution or course not included in this prospectus, when they cancel their admission from other institution to join courses included in the purview of this prospectus.

9.4.1 Cancellation of Admission by Admitting Authority or Heads of the Institute.

- 1. An applicant who has paid the admission fees at the Admission Centre but fails to report at the college within 3 working days of grant of admission may forfeit the claim for admission and his/her entire admission fee paid shall be forfeited.
- 2. If any information/certificate submitted by the applicant in connection with his/her admission is found to be incorrect later on at any time, his/her admission shall be cancelled forthwith and the entire fees shall be forfeited.
- 3. Admission offered to the applicants shall be cancelled, if at a later stage, the Goa University declares that the applicant is not eligible for admission. In this case, the entire fees, except admission fees (Rs.600/-) will be refunded.
- 4. If the candidate expires or becomes invalid within 90 (Ninety) days of the date of final round of admission, the entire fee including admission fee shall be refunded.

9.4.2 Cancellation by Candidate

1. Vertical Mobility or transfer from one course/ institute to another; from one category to another or from one branch to another in the same institute for the courses included within this prospectus during the admission rounds shall not be treated as cancellation of admission. There shall be no deduction on this account. In such cases, the bank draft submitted by the student shall be returned to him and a new bank draft shall be accepted. Candidate seeking admission under GOI nomination seats reserved for Goa State shall be treated as vertical mobility.

- Admission fee of Rs.600/- shall not be refunded under any circumstances except clause 4 above.
- 3. If an applicant desires to cancel his/her admission for any reason whatsoever, during the Centralised Admission process, but before the start of the academic session (the date decided by Goa University), he/she shall be allowed to do so. It shall be presumed that the admission is cancelled at that stage and he/she shall forfeit the admission fee. The other fees shall be returned to him/her.
- 4. If an applicant cancels the admission after the start of the academic session, he/she shall be entitled for refund of fees, provided the refund is sought within 10 days from the date of first admission /date of start of academic session, which ever is later, Rs.500/- shall be deducted towards cancellation charges by the institution from which the admission is cancelled.
- 5. If an applicant cancels the admission after the start of the academic session but within 30 days from the date of first admission/Date of start of academic session, which ever is later, he/she shall be entitled for refund of fees, after deducting, Rs.1000/- towards cancellation charges by the institution, from which the admission is cancelled.
- 6. If an applicant cancels the admission beyond 30 days after the start of the academic session/date of first admission, which ever is later, and before commencement of third round of admission he/she shall be entitled for refund of fees, after deducting, Rs.1000/-towards cancellation charges by the institution, from which the admission is cancelled, provided the vacancy created due to his/her cancellation is filled up in subsequent rounds of admission. However, applicants admitted during the 3rd/subsequent rounds if any, shall be entitled for refund as above provided the vacancy created due to his/her cancellation is filled up in subsequent rounds if admissions. Such applicants shall apply for refund from the Institution, within 15 days of his/her cancellation.

9.4.3 OTHER INSTRUCTIONS

- 1. The application forms, original documents, and the bank drafts of the fee paid shall remain in the custody of the Admission Committee through the representative of the respective institutions until the Third Round of Admission. The bank drafts shall not be en-cashed till this time to facilitate on the spot refund of the fee, during vertical mobility. Heads of Institutions shall be solely responsible for the refund of fees.
- 2. After the third round of admission the refund of fees shall be sought from the Principal of the Institutions. The Principals of the institute should ensure that the refund is made within 15 days from the date of cancellation and valid request for refund. Fee receipt shall be issued by respective institutions.

- 3. The Admission Committee shall be responsible for transfer of application form and Original documents of the applicants from one institute to other, on account of vertical mobility, during the process of admission.
- 4. All fees and deposits pertaining to hostel shall be paid to and refunded by the Heads of respective institutes only and no correspondence should be made to the DTE.
- 5. In case of any legal dispute on refund of fees, Directorate of Technical Education or Admission Committee shall not be the party to the dispute, except for the purpose of clarification of the rules.

ANNEXURE-I: PROFORMA FOR CERTIFICATES

1. CERTIFICATE OF RESIDENCE

OFFICE OF THE MAMLATDAR		
Certificate No		
This is to certify that Shri/Kum.		aged years,
son/daughter of	is resid	ing at House No.
situated in Ward / Road	, Town / Village of	of,
Taluka, sinc	ce last () years.
This certificate is issued at the requ	est of Shri / Kum.	for
the purpose of seeking admission to	Professional Colleges in the St	ate of Goa.
	Mamlatdar	
Place:		
Date:	OFFIC	E STAMP
1. This is to certify that Shri/Kum. Son/Daughter of		_ of village / town
of Caste / Tribe which is recognised as	-	ne
The Constitution (Goa, Dam	nan and Diu) Scheduled Caste or	rder, 1968
The Constitution (Goa, Dam	nan and Diu) Scheduled Tribes of	order, 1968
2. Shri/Kum.		and or his/her family
ordinarily resides in village/town _	of	Goa and is non-migrant /
migrant (from the state of		
February, 1968.		
	Signature:	
Place:	Designation:	Deputy Collector
Date:		(with seal of Office)
	11 111 1	

NOTE: The Term "Ordinarily reside" used here will have the same meaning as in section 20 of the Representation of the Peoples Act, 1950.

3. CASTE CERTIFICATE (OBC)

FORM OF BACKWARD CLASS CERTIFICATE OFFICE OF DISTRICT MAGISTRATE /SUB-DIVISIONAL MAGISTRATE/ MAMLATDAR

This is to certify that Shri/Kum.	Son /Daughter of
-	of village / town
of the State of Goa belongs to the backward class under the Govern 12011/68/93-BCC (C) dated 10 th Se dated 6 th December, 1996, publishe dated 13 th Sept, 1993 and dated 11 ^t Govt. of Goa notification No. 13/3/	caste/community, which is recognised as a ment of India, Ministry of Welfare, resolution No. ptember, 1993 and resolution No. 12011/44/96-BCC (C) ed in Gazette of India, Extraordinary, Part I, Section I, ^h December, 1996 respectively, as also mentioned under 84-LAWD/OBC dated 12.6.1987, No. 13 /25/ 92-SWD- SWD dated 3.3.1997, No. dated 13.5.1997, No. dated
Shri/Kum resides at House Noin vi	and or his/her family ordinarily llage / town Taluka of Goa.
of non-creamy / creamy layer ment	ate of issue of this certificate belongs to persons/sections ioned in column 3 of the schedule of the Government of raining O.M. No. 36012/22/93/Est)SCT) of 1993.
ordinarily resides in village/town _	and or his/her family of Goa and is non-migrant /) as per the presidential order dated 19 th
	Signature:
Place:	Designation
Date:	Designation: (with seal of Office)
NOTE: The Term "Ordinarily resident 20 of the Representation of the Peop	le" used here will have the same meaning as in section bles Act, 1950.
4. ESM CERTIFICATE	
	No.RSB/CERT/ Government of Goa, Rajya Sainik Board, Collectorate Building, Panaji - Goa. Date :-
	CERTIFICATE is the son /
	egistered as Ex-Serviceman in Goa under Reg. No.
dated	
	est of above mentioned Ex-Serviceman.

Secretary Rajya Sainik Board, Government of Goa.

5. FREEDOM FIGHTER CERTIFICATE

GOVERNMENT OF GOA
No. HD
Home Department (General)
Secretariat, Panaji, Goa.
Date :-

CERTIFICATE

This is to certify that Shri	father /
mother of	is /was a bonafide freedom
fighter, registered under No.	
	Under Secretary (Home)

6. INCOME CERTIFICATE

CERTIFICATE

income	e) of Shri/Smt							and
his/her	spouse Shri/Sm	t			resider	nt of		
and par	rents of Miss / M	laster						
for the	year	is	Rs		_ Rupees_			
This	certificate	is	issued	at	the	request	of	Shri/Smt
					fo	r being proc	duced to	Directorate
of Tec	hnical Education	n / Profe	essional Col	leges f		e i		

their ward in tuition fees available for persons with income less than Rs.2, 00,000 /- per annum.

The undersigned is personally satisfied about the correctness of the certificate, which has been issued after making an inquiry through the Village Panchayat / Assistant Municipal Inspector of this council and on the basis of the report number ______ and dated ______.

Signed by Sarpanch / Secretary of Village Panchayat/AAO of Municipalities Countersigned by Block Development Officer / Chief Officer of Municipalities

ANNEXURE –II: SYLLABUS

(as prescribed by Goa Board of Secondary & Higher Secondary Education)

PHYSICS SYLLABUS – STD. XII

(from June 2007 onwards)

Chapter I: Electric Charges and Fields

Charges and their basic properties. Conductors and insulators. Coulomb's law – force between two point charges, forces between multiple charges; superposition principle .

Electric field, electric field due to a point charge, electric field lines; electric dipole, electric field due to a dipole; torque on a dipole in a uniform electric field. Continuous charge distribution

Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).

Chapter II: Electrostatic Potential and Capacitance

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipoles in an electrostatic field. Electrostatics of conductors. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor, Van de Graaff generator.

Chapter III: Current Electricity

Electric current, flow of electric charges in a metallic conductor, drift velocity and mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical resistivity and conductivity. Carbon resistors, colour code for carbon resistors; temperature dependence of resistance, electrical energy and power, series and parallel combinations of resistors;.

Internal resistance of a cell, potential difference and emf of a cell. Cells in series and parallel

Kirchhoff's laws and simple applications. Wheatstone bridge, metre bridge.

Potentiometer – principle and applications to measure potential difference, for comparing emf of two cells and measurement of internal resistance of a cell.

Chapter IV: Moving Charges and Magnetism

Concept of magnetic field Force on a moving charge in uniform magnetic and electric fields. Cyclotron. Force on a current-carrying conductor in a uniform magnetic field Biot - Savart law and its application to current carrying circular loop.

Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids.

Force between two parallel current-carrying conductors – definition of ampere. Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron.. Torque on a current loop in a uniform magnetic field; Moving coil galvanometer – its current sensitivity and conversion to ammeter and voltmeter.

Chapter V: Magnetism and Matter

Bar magnet as an equivalent solenoid, Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis magnetic as an analogue of electrostatic field. Magnetic field lines;

Earth's magnetic field and magnetic elements.

Para-, dia- and ferro – magnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanent magnets.

Chapter VI: Electromagnetic Induction

Electromagnetic induction; Faraday's law, induced emf and current; Lenz's Law, Motional emf; Eddy currents. Self and mutual inductance. AC generator

Chapter VII: Alternating Current

Alternating currents, peak and rms value of alternating current /voltage; AC applied to Resistor, Inductor and Capacitor, reactance and impedance;, LCR series circuit (Phasor Diagram solution), Resonance; Power in AC circuits, wattless current. LC oscillations (qualitative treatment only) Transformer.

Chapter VIII: Electromagnetic waves

Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays, gamma rays) including elementary facts about their uses.

Chapter IX: Ray Optics and Optical Instruments

Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula. Magnification, power of a lens, combination of thin lenses in contact. Refraction and dispersion of light through a prism.

Scattering of light – blue colour of the sky and reddish appearance of the sun at sunrise and sunset.

Optical instruments: Human eye, image formation and accommodation, correction of eye defects (myopia, hypermetropia, presbyopia and astigmatism) using lenses. Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Chapter X: Wave Optics

Wave optics: wave front and Huygens' principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygens' principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. Polarisation, plane polarised light; Brewster's law, uses of plane polarized light and Polaroids.

Chapter XI: Dual Nature of Matter and Radiation

Photoelectric effect, Einstein's photoelectric equation – particle nature of light. Matter waves – wave nature of particles, de Broglie relation. Davisson-Germer experiment.

Chapter XII: Atoms

Alpha - particle scattering experiment; Rutherford's model of atom; Electron Orbits, Atomic spectra, Bohr model, energy levels, hydrogen spectrum.

Chapter XIII:Nuclei

Composition and size of nucleus, atomic masses,

Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; Radioactivity – alpha, beta and gamma particles/rays and their properties; radioactive decay law. nuclear fission and nuclear reactor, nuclear fusion.

Chapter XIV: Semiconductor Electronics: Materials, Devices and Simple Circuits

Semiconductors; semiconductor diode – I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR).

Unit XV: Communication Systems

Elements of a communication system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation

Prescribed textbooks (Published by Goa Board of Secondary and Higher Secondary Education, Porvorim)

1. Physics Part-I Textbook for Class XII

2. Physics Part-II Textbook for Class XII

CHEMISTRY SYLLABUS – STD. XII

Unit I : Solid State

Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties.

Unit II : Solutions

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties – relative lowering of vapour pressure, elevation of B.P., depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass.

Unit III: Electrochemistry

Redox reactions; conductance in electrolytic solutions, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea), dry cell – electrolytic cells and Galvanic cells; lead

accumulator, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, fuel cells; corrosion.

Unit IV: Chemical Kinetics

Rate of a reaction (average and instantaneous), factors affecting rates of reaction: concentration, temperature, catalyst ;order and molecularity of a reaction; rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions); concept of collision theory (elementary idea, no mathematical treatment)

Unit V: Surface Chemistry

Adsorption – physisorption and chemisorption; factors affecting adsorption of gases on solids; catalysis :homogenous and heterogeneous, activity and selectivity: enzyme catalysis; colloidal state: distinction between true solutions, colloids and suspensions; lyophillic, lyophobic multimolecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsions – types of emulsions.

Unit VI: General Principles and Processes of Isolation of Elements

Principles and methods of extraction – concentration, oxidation, reduction electrolytic method and refining;

occurrence and principles of extraction of aluminium, copper, zinc and iron.

Unit VII : p-Block Elements

Group 15 elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; nitrogen – preparation, properties and uses; compounds of nitrogen: preparation and properties of ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous-allotropic forms; compounds of phosphorous: preparation and properties of phosphine ,halides (PCl₃, PCl₅) and oxoacids (elementary idea only)

Group 16 elements : General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; dioxygen: preparation, properties and uses; simple oxides; ozone. Sulphur – allotropic forms; compounds of sulphur: preparation, properties and uses of sulphur dioxide; sulphuric acid: industrial process of manufacture, properties and uses, oxoacids of sulphur (structures only).

Group 17 elements : General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens: preparation, properties and uses of chlorine and hydrochloric acid, interhalogen compounds, oxoacids of halogens (structures only).

Group 18 elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

Unit VIII: d and f Block Elements

General introduction ,electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation. Preparation and properties of K₂Cr₂O₇ and KMnO₄.

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Lanthanoids – electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction. Actinoids – Electronic configuration, oxidation states.

Unit IX Coordination Compounds

Coordination compounds – Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds, bonding; isomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems).

Unit X: Haloalkanes and Haloarenes Haloalkanes:

Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions.

Haloarenes:

Nature of C-X bond, substitution reactions (directive influence of halogen for monosubstituted compounds only)

Uses and environmental effects of – dichloromethane, trichloromethane, tetrochloromethane, iodoform, freons, DDT.

Unit XI: Alcohols, Phenols and Ethers

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses, some important compounds – methanol and ethanol.

Phenols : Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols.

Ethers : Nomenclature, methods of preparation, physical and chemical properties, uses.

Unit XII: Aldehydes, Ketones and Carboxylic Acids

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, and mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses.

Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Unit XIII: Organic compounds containing Nitrogen

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary secondary and tertiary amines. Cyanides and Isocyanides – will be mentioned at relevant places in context. Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

Unit XIV: Biomolecules

Carbohydrates – Classification (aldoses and ketoses), monosaccahrides (glucose and fructose), oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); importance.

Proteins - Elementary idea of α - amino acids, peptide bond, polypeptides, proteins, primary structure, secondary structure, tertiary structure and quaternary structure

(qualitative idea only), denaturation of proteins; enzymes. Vitamins – Classification and functions. Nucleic Acids: DNA & RNA .

Unit XV: Polymers

Classification – natural and synthetic, methods of polymerization (addition and condensation), copolymerization. Some important polymers: natural and synthetic like polythene, nylon, polyesters, bakelite, rubber.

Unit XVI: Chemistry in everyday life

Chemicals in medicines – analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.
 Chemicals in food – preservatives, artificial sweetening agents.
 Cleansing agents – soaps and detergents, cleansing action.

Prescribed textbooks (Published by Goa Board of Secondary and Higher Secondary Education, Porvorim)

1. Chemistry Part-I Textbook for Class XIIth

2. Chemistry Part-II Textbook for Class XIIth

MATHEMATICS SYLLABUS – STD XII

UNIT -I : RELATIONS AND FUNCTIONS

1. **Relations and Functions :**

Types of relations : reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function. Binary operations.

2. Inverse Trigonometric Functions.

Definition range, domain, principal value branches, Graphs of Triangle & inverse trigonometric functions. Elementary properties of inverse trigonometric functions. Periodicity of function and fundamental period.

UNIT – II : ALGEBRA

1. Matrices :

Concept, notation, order, equality, types of matrices, zero matrix, transpose of a matrix. Symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication Non-commutatively of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

2. Determinants :

Determinant of a square matrix (up to 3×3 matrices) properties of determinations, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

UNIT – III CALCULUS

1. Limits, Continuity and Differentiability:

Revision of algebraic limits, exponential limits, logarithmic limits, limits of trigonometric and inverse trigonometric functions. Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit function. Concept of exponential and logarithmic functions and their derivative. Logarithmic differentiation. Derivatives of a^x , e^x , $\log x$, a^{px+q} , e^{ax+b} , $\log (ax + b)$ using first principle. Derivative of functions expressed in parametric forms. Second order derivatives Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretations.

2. Applications of Derivatives :

Applications of derivatives rate of change, increasing/decreasing functions, tangents & normals, approximation, maxima and minima (First derivative test motivated geometrically and Second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

3. Integrals :

Integration as inverse process of differentiation. Integration of a variety of functions by substitution by partial fractions and by parts, only simple integrals of the type.

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{a x^2 + b x + c}, \int \frac{dx}{\sqrt{a x^2 + b x + c}}, \int \frac{dx}{\sqrt{a x^2 + b x + c}}, \int \frac{p x + q}{\sqrt{a x^2 + b x + c}} dx, \int \sqrt{a^2 \pm x^2} dx, \int \sqrt{x^2 - a^2} dx, \int \frac{a \sin x + b \cos x}{\sqrt{a x^2 + b x + c}} dx, \int \sqrt{a^2 \pm x^2} dx, \int \sqrt{x^2 - a^2} dx, \int \frac{a \sin x + b \cos x}{c \sin x + d \cos x} dx, \int \frac{a e^x + b e^{-x}}{c e^x + d e^{-x}} dx, \int \frac{dx}{a \sin^2 x + b \cos^2 x}, \int \frac{dx}{\sin x (a + b \cos x)}, \int \frac{dx}{\cos x (a + b \sin x)}, \int e^{ax} \sin b x dx, \int e^{ax} \cos b x dx, \text{Integrals based on substitution } \tan\left(\frac{x}{2}\right) = t \text{ i.e. } \int \frac{dx}{a \sin x + b \cos x + c}$$

to be evaluated.

Definite integrals as a limit of a sum. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

4. Applications of the Integrals :

Applications in finding the area under simple curves, especially lines, area of circles/parabolas/ellipses (in standard form only), are between the two above said curves (the region should be clearly identifiable).

5. Differential Equations :

Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by methods of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type.

UNIT – IV : VECTORS AND THREE–DIMENSIONAL GEOMETRY

1. Vectors :

Vectors and scalars, magnitude and direction of a vector. Direction cosines /rations of vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ration. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vector triple product , volume of a parallelepiped, vector triple product and its properties.

2. Three – dimensional Geometry :

Direction cosines/ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines, (ii) two planes, (iii) a line and a plane, Distance of a point from a plane.

UNITS – V : PROBABILTY

1. Probability :

Multiplication theorem on probability. Conditional probability, independent events, total probability, Baye's theorem Random variable and its probability distribution, mean and variance of haphazard variable. Repeated independent (Bernoulli) trial and Binominal distribution.

APPENDIX

1. Proofs in Mathematics :

Through a variety of examples related to mathematics & already familiar to the leaner, bring out different kinds of proofs direct, contra positive, by contradictions, by counter example.

2. Mathematical Modelling :

Modelling real-life problems where many constraints may really needs to be ingoted (continuing form Class XI) However now the models concerned would use techniques/results of matrices, calculus and linear programming.

PROSPECTUS FOR PROFESSIONAL DEGREE COURSES 2009-10

Prescribed textbooks (Published by Goa Board of Secondary and Higher Secondary Education, Porvorim)

1. Mathematics Part-I	Textbook for Class XII th
2. Mathematics Part-II	Textbook for Class XII th

BIOLOGY SYLLABUS – STD. XII

VI SEXUAL REPRODUCTION

Pollination and fertilization in flowering plants.

Development of seeds and fruits.

Human reproduction: reproductive system in male and female, menstrual cycle. Production of gametes, fertilization, implantation, embryo development,

pregnancy and parturation.

Reproductive health – birth control, contraception and sexually transmitted diseases.

Key points for developing subject matter

Plants show vegetative, asexual and sexual reproduction. 38

In Angiosperms, the flowers contain the reproductive organs. They may be unisexual or bisexual.

. There are multitudes of ways of bringing together pollen and the carpel (pollination).

In nature, pollination is subject to many uncertainties; often barriers to pollination and incompatibility have to be overcome for successful pollination and fertilisation.

. The male gametes are produced in the pollen tube, while the female gamete is produced in the embryo sac.

Double fertilisation leads to the formation of embryo and the endosperm.

The ovules in the ovary turn into seed after fertilisation. The ovary turns into a fruit.

. In animals, testes produce sperms and ovaries produce ova.

. Both male and female gametes production is under hormonal regulation; production of ova is a cyclic process.

During fertilization, sperms migrate through the genital tract to fuse with the ova.

. The genetic makeup of the sperm determines the sex of the unborn child.

. The fertilized egg implants in the uterine wall where it remains connected with the mother till birth.

. The zygote undergoes cleavage, and then passes through different stages of development leading to the formation of three germinal layers.

After completion of the gestation period, a fully developed baby is delivered. Contraceptive methods interfere with one or more of the following: gamete production, ovulation, sperm delivery, fusion of gametes and implantation. These methods of birth control thus help in family planning.

. In IVF the ova is fertilised using a donor sperm outside the body and the

fertilised ova is implanted in the female body for further development. Abortion is legal, but not recommended for birth control; prenatal sex determination (usually associated with selective female foeticide) is illegal. Safe sex can help to prevent sexually transmitted diseases and AIDS.

VII Genetics and Evolution

Mendelian inheritance. Chromosome theory of inheritance, deviations from Mendelian ratio (gene interaction- Incomplete dominance, co-dominance, complementary genes, multiple alleles). Sex determination in human beings: XX, XY. Linkage and crossing over. Inheritance pattern of haemophilia and blood groups in human beings. DNA: replication, transcription, translation. Gene expression and regulation. Genome and Human Genome Project. DNA fingerprinting. Evolution: Theories and evidences.

Key points for developing subject matter

Plants and animals show Mendelian inheritance.

. Organisms may also show cytoplasmic inheritance.

DNA carries information from one generation to the next.

. Human inheritance pattern can be exemplified by pattern of inheritance of blood groups and haemophilia

. Genes on the same chromosomes show linkage and are inherited together unless crossing over occurs.

. The Lac operon exemplifies a typical model of gene regulation.

Sequencing of Human DNA under the Human Genome Project aims at finding solutions for genetic disorders and several health problems.

DNA fingerprinting is also used for identification and crime detection.

_ Diversity in animals and plants arises out of variations in the genetic material.

. Mutation is an important source of variation.

Further, variations in genetic material would affect the entire population over generations to give rise to new species and, therefore, lead to evolution.

. The process of evolution is explained by various theories (Lamarckism, Darwinism and Neo-Darwinism). Different types of evidences support the theories.

VIII BIOLOGY AND HUMAN WELFARE

Animal husbandry. Basic concepts of immunology, vaccines. Pathogens, Parasites. Plant breeding, tissue culture, food production.

Microbes in household food processing, industrial production, sewage treatment and energy generation. Cancer and AIDS. Adolescence and drug/alcohol abuse

Key points for developing subject matter

. Traditionally farm animals have been bred for increased productivity, disease and pest resistance.

. The human body has its own defence mechanism.

. The defence system is constantly under attack from diverse sourcespollutants, chemicals and infectious organisms.

Our body is capable of producing millions of types of antibodies to trap/remove and overcome the adverse effects of these foreign bodies/chemicals.

However, against some infectious organisms we need to develop antibodies in advance, i.e. acquired immunity.

. Vaccination can help in developing immunity to specific diseases.

. Genetically engineered micro organisms are serving as bioreactors for production of vaccines and drugs.

Infectious organisms like helminths (*Ascariasis, Filaria*), protozoa (Amoebiasis, Malaria), bacteria (Typhoid, Pneumonia), viruses (common cold, AIDS) and fungi (Ring worm) attacks specific systems of our body and produce characteristic symptoms.

_ Each infectious organism therefore, requires individual preventive measures.

Some of these preventive measures demand improved personal hygiene and living conditions.

Traditional plant breeding has been the method of creating varieties that are high on yield, resistance to pests and diseases and adapted to a given climatic condition. This has been the source of green revolution in India

New methods of propagation using tissue culture and genetic alteration using rDNA technology provide novel methods of crop improvement, horticulture, pest resistance.

. Microbes thrive by degradation/conversion of organic and inorganic compounds.

These characteristics of microbes can be exploited to produce household products (yoghurt/vinegar), for industrial production, treatment of sewage and energy generation.

Diseases like cancer and AIDS – the major cause of death in the modern world – need adequate preventive/control measures.

Some people who are unable to handle the emotional stress and strain of growing up find apparent relief in actions like drug and alcohol

consumption; in reality a non-solution since it leads to severe repercussions like physiological and emotional disorders.

IX BIOTECHNOLOGY AND ITS APPLICATIONS

Recombinant DNA technology. Applications in Health, Agriculture and Industry Genetically modified (GM) organisms; biosafety issues. Insulin and Bt cotton

Key points for developing subject matter

. DNA is a long polymer that can be edited by cutting and joining in any

desired way. The edited DNA molecule (recombinant DNA) can be reintroduced into microbes, animals or plants to create genetically modified (GM) organisms or transgenics.

rDNA technology is the very basis of many applications in biotechnology – for example to produce desired drugs and for gene therapy.

rDNA technology has also played a major role in production of GM foods which have the advantage of high yields, pest and disease resistance.

Use of GM food and crops has raised several questions regarding its biosafety from the point of human consumption, environment and other social issues.

A combination of classical breeding with rDNA technology and genetic modification has great potential for animal breeding.

. While cloning has been in use for plants since several decades, use of the technique in animals, particularly human cloning, raises several ethical and other issues.

rDNA technology (gene therapy) can provide effective remedies for several genetic disorders.

. Bioreactors have been developed for production of vaccines and drugs.

X ECOLOGY & ENVIRONMENT

Ecosystems: components, types and energy flow. Species, population and community. Ecological adaptations. Centres of diversity and conservation of biodiversity, National parks and sanctuaries. Environmental issues.

Key points for developing subject matter

. The living organisms in their environment form a structural and functional unit in terms of energy flow (ecological pyramids).

. The biotic and abiotic components within an ecosystem interact with each other.

Several types of ecosystems can be classified and identified in nature depending on the climate, habitat, energy flow pattern and the physiognomy.

In nature, organisms do not occur singly but exist as populations and communities.

Plants and animals are adapted to their habitats such as in deserts and in water.

Several factors affect biodiversity including natural and anthropogenic activities.

In India, women have played a major role in conservation of plants, animals and natural resources.

The need of the present day is to conserve biodiversity for a sustainable living; several conservation methods have been adopted.

. Conservation of biodiversity may be *in situ* or *ex situ*.

. The 'Silent Valley' as a case study, to understand the value of environmental impact assessment and the role of peoples' participation.

Introduction to the idea that new products, processes and ideas related to biodiversity can be patented (Intellectual Property Rights, IPR).

PROSPECTUS FOR PROFESSIONAL DEGREE COURSES 2009-10

Pollution, deforestation, global warming, ozone layer depletion, underground water level and threat to biodiversity (with special reference to wild life) are some among many environmental concerns.

Prescribed textbooks (Published by Goa Board of Secondary and Higher Secondary Education, Porvorim)

1. Biology Textbook for Class XIIth

COMPUTER SCIENCE

UNIT 1: PROGRAMMING IN C++

1. Programming by example in C++ language:

C++ character set, C++ Tokens (Identifiers, keywords, Constants, operators), Structure of a C++ Program (include files, declaration of a Class, main() function), header filesiostream.h, iomanip.h; cout, cin Use of I/O operators (<< and >>), Use of setw () and endl, Cascading of I/O operators, Error Messages, Use of editor, basic commands of editor, compilation, Linking and Execution.

2. General concepts

Object declared as Classes, Encapsulation, Data hiding, Inheritance, Polymorphism.

Classes and Objects: Class declaration, Data Members, Member functions, Public & Private Members, default labels, data hiding and encapsulation, Arrays within a class, class function definition, Member function definition-inside and outside the class, scope resolution operator (::), Private and Public Member functions, Nesting of Members function, creating object, Accessing class data members, Accessing member functions, Arrays of objects, objects as function arguments: pass by value.

Constructors and Destructors:

Constructors: declaration and definition, default constructors, Special characteristics, parameterized constructors, Passing initial values as arguments (by implicit call and explicit call), Copy constructors, constructor with default arguments.

Destructors: definition and use

Function overloading: Function overloading: declaration, definition and use.

Inheritance: extending classes: Concept of Inheritance, Base Class, derived class, defining derived class. Visibility modes-Private, Public, Protected. Single Inheritance, Multiple Inheritance, Multilevel Inheritance, Privately derived, Publically derived and Protrectedly derived, Making a protected member Inheritable, Access control to private and protected members by member functions of a derived class, nesting of classes.

3. DATA TYPES, VARIABLES AND CONSTANTS:

Concept of Data types; Built–in Data types: void, char, int, float and double; Constants: Integer Constants, Character Constants (Backslash character constants : \n,\a,\r,\t) Floating point Constants, String Constants; Variables: Declaration of Variables of built-in data types, Access Modifier : const; types modifiers: signed, unsigned, short, long.

4. OPERATORS AND EXPRESSIONS:

Operators : Arithmetic operators (-,+, *, /, %), Unary operator (-), Increment and Decrement operators (++,--), Relational operators (>, >=, <, <=, = =, !=), logical operators: (&&, ||, !), conditional operators?: (Condition ? if statements : else_ statement), Precedence of Operators; Expressions: Definition, Automatic Type conversion in expressions, C++ shorthands (+=, -=, *=, /=, %=); Assignment statement : General Form, Variable initialisations; Type Compatibility, Type casting.

5. I/O FUNCTIONS:

Header file : stdio.h; getc (), putc(), gets () and puts () functions:

6. FUNCTIONS:

General form; Defining a function; Function prototype, invoking a function; passing arguments to function, specifying argument data types, Default arguments, Constant arguments, Call by value, call by reference, return void, returning values and their types, calling functions with arrays; Scope rules of functions and variables; Local and Global variables; inline function.

7. BUILT – IN FUNCTION:

Header files string.h, ctype.h, math..h,

Standard Library function – Character and string related functions: isalnum (), isalpha (), isdigit (), islower (), isupper (), strcat(), tolower (), toupper (), strcpy (), strlen (), strcmp (); Mathematical functions: log(), log l0(), sqrt(), sin(), Cos(),abs().

Unit 2: DATA STRUCTURE

1.Arrays :

One and two dimensional arrays, sequential allocation, Algorithm for one dimensional arrays for traversal, searching (linear and Binary search), insertion, deletion, sorting (Insertion, selection and Bubble sort), merging.

2.Linked Lists:

Insertion, deletion of single linked list, concept of circular and Doubly linked list.

3. Stacks:

Linked list Implementation of Stack, Operations on Stack (PUSH and POP); Algorithm for converting expressions from infix to postfix notation and evaluation of expression in postfix notation:

4. Queue:

Link list Implementation of Queue: Linear and circular Queue (Insertion and deletion)

UNIT 3 : FILE ORGANISATION AND FILE HANDLING IN C++

1. Basic file operation:

Text file – Read and write, Binary file (Sequential Access) Searching, appending, insertion, deletion, modification;

2.File Handling in C++:

Header file - fstream.h, fstream, ifstream, ofstream; reading and writing strings from/to disk; Detecting end-of-file; open(), close() functions; reading and writing objects from/to disk using read (), write () functions.

3. Database Concepts:

Relational data model: Concept of domain, tuple relation, Cartesian product, Normalisation; First normal form, second and third normal form. SQL: Processing capabilities. Data manipulation Language - Retrieving, manipulation, updating Tables (rows, columns and fields).

4. SQL Supported by Xbase type products:

Data type; SMALLINT, DECIMAL, NUMERIC, CHARACTER, DATE, SQL Commands: CREATE TABLE, CREATE VIEW, DROP TABLE, ALTER TABLE, SELECT, DISTINCT, INTO, FROM, WHERE, GROUP BY, HAVING, ORDER BY, UNION, UPDATE.. SET.. WHERE, INSERT, DELETE, SQL FUNCTIONS: AVG, COUNT, MAX, MIN and SUM:

Unit 4 : Boolean Algebra:

1. Rules of Boolean Algebra, Basic Postulates of Boolean algebra, logic gates- (NOT, AND, OR, NOR, NAND, XOR, XNOR) and their uses in circuits

2. Demorgan's laws and its application, Half ADDER, Full ADDER.

3. Reducing Boolean expressions to sum of products and product of sums forms, Use of Karnaugh Map for minimization of Boolean expressions (upto 4 variables)

UNIT 5: COMPUTER NETWORK:

1.Need for networking: Packet switching techniques communication channels, Twisted pair cables, coaxial cable, optical fibers, microwave, radio wave, satellite link.

2. Elementary Terminology:

Nodes; links, connectivity, Different topologies - bus, circular, star, tree. Concepts of LAN, WAN, MAN, Protocol, internetworking, Backbone network; Modem; Bridge, router, gateway, repeaters

3.Client Server:

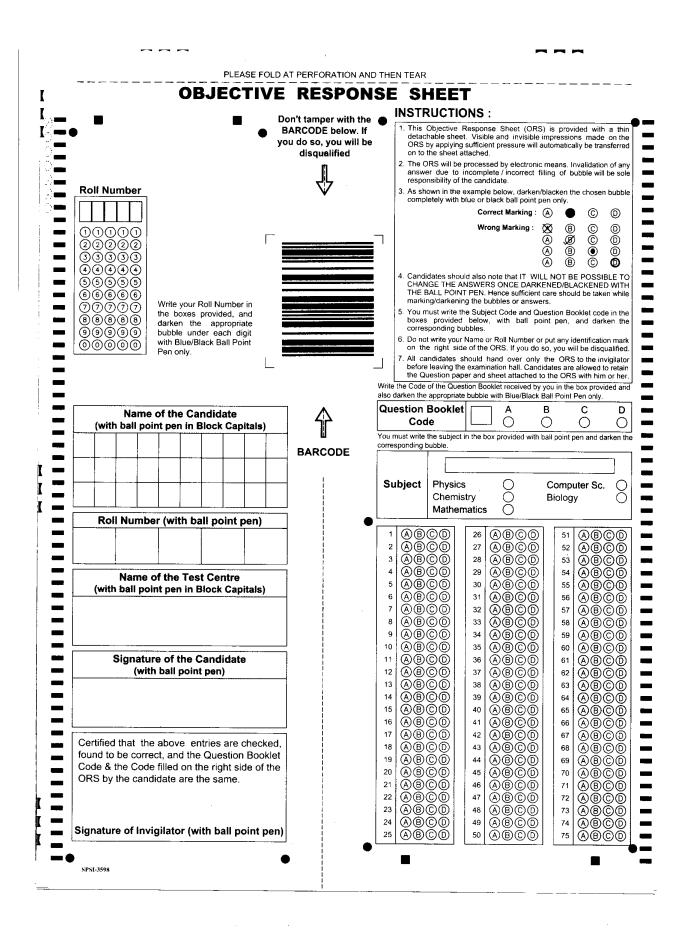
Application level-Remote login (telnet), File transfer protocol (FTP), Electronic mail (e-mail)

4.Internet Related Terminology:

World wide web (www, website, webpage, URL, Webaddress), Hyper Text Transfer Protocol (HTTP), Hyper Text Markup Language (HTML), Extensible markup Language (XML), Dynamic Hyper Text Markup Language (DHTML), Downloading and uploading files from / on the web, Web Browser ,Chat services, Video Conferencing, e-commerce, Usenet, Firewall, TCP/IP Connection, ISP.

BOOKS RECOMMENDED

 Modern abc of Computer Science – A Text book for Class XII by V.K.Jain, Modern Publication
 Let Us C by Yeshwant Kanetkar, BPB Publishers.



DIRECTORATE OF TECHNICAL EDUCATION, ALTO-PORVORIM, GOA, 403521

ANNEXURE III: APPLICATION FORM(B) FOR ADMISSION TO PROFESSIONAL DEGREE COURSES 2009-10

FORM B

FORM NO._____

REGN. NO.			

INSTRUCTIONS TO CANDIDATE

1. Applicant must fill the form in his/her own handwriting.

2. Read rules of admission and eligibility criterion as given in the prospectus before filling the form



1. NAME OF THE CANDIDATE (In Block letters as recorded in the HSSC/SSC)



2. CATEGORY APPLIED FOR (Tick the appropriate box (es))

1		2	3	4	5	6	7	8	9	10	11	12	13	14
GE	N	SC	ST	OBC	PH	FF	CSP	ESM	LA	GN	NRI	OGA	OSA	KM

3. DATE OF BIRTH:

4. H.S.S.C. (Std. XII Sc.) Or Equivalent Examination: (Details & Marks)

	Board		Month	Year	Seat No.		
PHYSICS	CHEMISTRY	MATHS	BIOLOGY	COMPUTER SC.	ENGLISH	OTHERS	OTHERS

5. GCET- 2009 MARKS

GCET-2009 ROLL NO. : _____

PHYSICS	CHEMISTRY	MATHEMATICS	BIOLOGY	COMPUTER SCIENCE	NATA SCORE (FOR B. ARCH APPLICANTS)

6. CHECK LIST FOR THE DOCUMENTS TO BE ATTACHED

1. Please attach self- attested xerox copies of the certificates in following order and tick appropriately.

2. No original document should be attached, as the admission committee shall not be responsible for loss of original document
ESSENTIAL DOCUMENTS

Sr. No.	Document	Attached	Checked
1.	Photograph on the form		
2.	Certificate of date of birth		
3.	Statement of marks/Certificate/provisional certificate of passing HSSC		
4	School/college leaving certificate		
5.	Certificate of residence		
6.	Documents for relaxation in the period of domicile, if any		
7.	Acknowledgement card with photograph		

7. DECLARATION OF APPLICANT

Certified that I, ______ have read and accepted the provisions of the Prospectus and have enclosed the self-attested copies of all the certificates in proper order as required and submitted the application complete in all respects. In the event of my application found to be deficient or incomplete, and rejected by Admitting Authority, I shall be held responsible for the same.

I, ______ hereby declare that the particulars furnished above are true, complete, and correct to the best of my knowledge and belief. I am fully aware that in the event of any information being found false or incorrect or ineligible being detected before or after the admission, appropriate action as deemed fit by the Competent Authority can be taken against me.

PLACE:	
DATE:	(Signature of the Applicant)
ADDRESS:	Name as signed (Write in Capital letters)
PHONE/MOBILE:	
8. DECLARATION BY PARENT / GUARDIAN OF 7	THE APPLICANT

I, Shri/Smt. _______ aged ______ years, Father/Mother/Guardian of Mr./Miss. _______, resident of Village/Town _______, District _______, in the State of ________ hereby declare that I have read and accepted the provisions of the provisions of the Prospectus and the Particulars furnished in the application including total annual income of both parents, are correct to the best of my knowledge and belief. I declare that I shall be held responsible for timely payment of all fees, rent, and other charges in respect of my son/daughter/ward during the period of his/her studies in the College.

I hereby declare that the Institute will not in any way be held responsible for accidents/injuries caused to my ward during the Classes, Practicals, Inplant Training in Industries, Educational Tours, Sports activity etc.

DATE: _____

(Signature of the Parent/Guardian)

Name as signed (Write in Capital letters)

GOVERNMENT OF GOA

DIRECTORATE OF TECHNICAL EDUCATION DEGREE COURSES ADMISSION COMMITTEE- 2009

ACKNOWLEDGEMENT CUM ADMISSION CARD

	Registration No				
	Name				
Photograph	Categories				
	Eligibility	MBBS/BDS/BHMS	BE	B.Pharm	B.Arch
	Order of Merit				
	Concession	Nil	30%	50%	

DETAILS OF ADMISSION (ADMISSION CARD)

Admission Round	Date	Course	Institute	Sign. of Authority	Acknowledgement of Institute.
FIRST					
SECOND					
THIRD					
EXTRA (if applicable)					

- 1. Acknowledgement Card along with the Registration No. is the proof of acceptance of the Application Form (B) by the Admission Committee.
- 2. Acknowledgement Card shall not be issued unless the form is complete in all respects.
- 3. Acknowledgement Card shall therefore be the identity of the applicant for any inquiry, complaint, or correspondence with the Admission Committee.
- 4. Admission card, to be submitted to the institute to register the admission with the institute, shall be given at the time of admission.
- 5. Admission card shall not be handed over to the applicant in case the original documents are not submitted or the total fees payable are not paid at the time of admission.

ANNEXURE IV: APPLICATION FORM FOR GCET 2009- FORM (A)

ANNEAURE I					ION			0
Roll No.							Г	
(Not to be filled by candidate)		1 1						
INSTRUCTIONS:) Candidates are advised to read				lly before	filling the	e form.		Recent Photograph
i) Applicant must fill the form i	n his/her	own har	ndwriting.					(Paste Here)
NAME: (In CAPITAL LET	FERS as	it appe	ars in SSC	CE certific	cate)			
DATE OF BIRTH: (as in S	SCE cei	rtificate	e)	-		- 1 9	9	
PLACE OF BIRTH:					GENDE	R: Male	e 🔾 F	Semale 🔵
ADDRESS: House No			Stre	et Name/.	Area			
Village/Town/City			Pin C	Code		State		
PHONE NO								
MOBILE								
ACADEMIC DETAILS:								
Exam Board				Exam	(Month	/Year)	Exam	Seat No.
XII Science								
GCET Subjects and Centre	e: (Enc	ircle a	ppropriat	e boxes f	for the s	ubjects)		
GCET SUBJECT CO	DE	PY	MA	СН	BY	CS		
GCET CENTRE COD	E		Centr	e name:	-	I		
Payment Details:								
DD No. Drawn on:						D	ated:	
DECLARATION			BANH	K NAME				
I				stat	e that I	have read	and acce	pted the provisions
of the Prospectus and GCET and submitted the application and hence rejected by the add	n comple	ete in al	ve enclose Il respects	d the self . In the e	-attested	l copies of my applica	all the oution four	certificates required
I hereby declare that	-				-			t to the best of my

I hereby declare that the particulars furnished above are true, complete and correct to the best of my knowledge and belief. I am fully aware that in the event of any information being false or incorrect and detected before or after the admission, appropriate action as deemed fit by the Competent Authority can be taken against me.

PLACE:

Signature of the Applicant

DATE:_____

Name of Applicant

(Signature of Parent/Guardian)

(Name of Parent/Guardian)

INSTRUCTIONS TO BE FOLLOWED WHEN FILLING UP THE APPLICATION FORM

1. PHOTOGRAPH affixed on the form should be a recent one i.e taken not earlier than 3 months prior to the date of application. 2 additional identical passport size photographs are to be enclosed with this form.

2. Write your NAME in CAPITAL LETTERS and DATE OF BIRTH as it appears in your Secondary School Certificate Examination (SSCE) certificate.

3.ADDRESS must be complete, including the postal code.

4. TELEPHONE NUMBER must be given with area code in brackets.

5.SUBJECT CODE: Encircle codes of subjects you intend to attempt

CODE	SUBJECT
PY	Physics
MA	Mathematics
СН	Chemistry
BY	Biology
CS	Computer Science

6. CENTRE CODE: Choose your centre by writing the centre code and name

S.N.	Centre	Code	Address
1	Panaji	10	Don Bosco Higher Secondary School
2	Miramar	11	Vasantrao Dempo Higher Secondary School
3	Verna	12	Fr. Agnel Multipurpose Hr. Secondary School
4	Margao	13	Shri. Damodar College of Commerce
5	Vasco	14	Deep Vihar Higher Secondary School
6	Mapusa	15	Purushottam Walawalkar Higher Secondary School
7	Ponda-1	16	A. J. De Almeida High School
8	Ponda-2	17	G. V. Ms. Smt. N. J. Aguiar Higher Secondary School
9	Sanquelim	18	Govt. Higher Secondary School
10	Curchorem	19	Smt. Chandrabhaga T. Naik Higher Secondary School

7. Self attested photo copies of the following CERTIFICATES to be enclosed: 1) SSCE Passing Certificate.2) Std XIth passing certificate or HSSC Examination Hall Ticket.

8. Form should be accompanied by DD for Rs. 300/-payable at Panaji, in favour of "Director of Technical Education" drawn on any nationalised bank

Dates for submitting completed forms: 02nd April, 2009 to 17th April, 2009.

SCHEDULE OF ADMISSION PROCESS

WORKING DAYS: MONDAY TO FRIDAY (except public holidays) WORKING TIME: 10.00 Hrs. TO 13.00 Hrs. and 14.00 TO 17.00 Hrs. ALL DATES PERTAIN TO YEAR 2009

NO.	EVENT	DATE
1.	Sale of Prospectus with GCET-09 and Admission application Forms	16-03-09(Mon) to 17 -04-09(Fri)
2.	Start of receiving of application forms for GCET-09 (FORM A)	02-04-09 (Thurs)
3.	Last date for receiving forms for GCET-09 (FORM A) at Admission Centre	17-04-09 (Fri)
4.	Last date to collect Admit Card from Admission Centre	17-04-09 (Fri)
5.	Dates of GCET-09	13-05-09(Wed) & 14 -05-09(Thurs)
6.	Result of GCET-09 (Expected)	24-05-09(Sun)
7.	Start of receiving of application forms for Admission (FORM B)	25-05-09 (Mon)
8.	Last date for receiving forms for Admission (FORM B)	05-06-09 (Fri)
9.	Display of Eligibility List at Admission Centre	15-06-09(Mon)
10	Last date for compliance with deficiencies in eligibility	17-06-09(Wed)
11.	Display of Provisional Merit List at Admission Centre	18-06-09(Thrus)
12.	Display of Final Merit List at Admission Centre	19-06-09(Fri)
13.	First Round of Admission	22-06-09(Mon) to 27-06-09(Sat)
14.	Second Round of Admission	13-07-09(Mon) & 14-07-09(Tue)
15.	Third Round of Admission	30-07-09(Thurs)
16.	Extra Round of Admission due to unexpected circumstances (if required)	As notified in news papers

- **Note: -1.** The Directorate of Technical Education reserves the right to modify the schedule of admission depending upon the exigency of the situations.
 - 2. The lists shall be displayed at 5.00 pm on the designated dates.
 - 3. The admission process will start at 10.00 a.m.
 - 4. Admissions to all the branches shall be carried out in following order:
 - a) Reserved categories 2 to 8, 10 and 11.
 - b) General category including seats dereserved from above.
 - c) Seats remaining vacant, if any to be offered to Category 9 –LA.
 - d) Seats remaining vacant, if any to be offered to Category 12-OGA.
 - e) Order of branches: Medicine, Dentistry, Engineering, Pharmacy, Architecture and Homoeopathy.

ROUNDS OF ADMISSION (Details)

FIKSI	ROUND OF A	DMISSION: M.B.B.S.,	B.D.S., B.E., B.	Pharm, B. Arci	n. and BHMS
Sr.No	Date & Day	Categories	Group & Mer	rit No.	Reporting Time
1	22-06-2009	SC, ST, PH, FF,	All candidates, All Courses		10.00 a.m.
1	Monday	CSP, ESM, GN, NRI			2.00 p.m.
2	23-06-2009 Tuesday	OBC	All candidates All Courses		10.00 a.m.
3	2 24-06-2009	General Category	MBBS and BDS	All candidates	10.00 a.m.
5	Wednesday		B.E. Group	Merit No. 1 to 175	12.00 noon
4	25-06-2009	General Category	B.E. Group	176 to 300	10.00 a.m.
т	Thursday	General Category	D.L. Oloup	301 to 425	2.00 p.m.
5	26-06-2009	General Category	B.E.Group	426 onwards	.10.00 a m.
³ F	Friday	General Category	B. Pharm	All Candidates	2.00 p m.
6	27-06-2009 Saturday	General Category	B.Arch	All	10.00 a m.
Ŭ	Suturday	Seneral Category	BHMS	candidates	11.00 a m.

FIRST ROUND OF ADMISSION: M.B.B.S., B.D.S., B.E., B. Pharm, B. Arch. and BHMS

SECOND ROUND OF ADMISSION

Sr.No.	Date & day	Categories	Group & Merit No.	Timing
		All Reserved	All Groups, all candidates	
1	13-07-2009	General Category	MBBS & BDS group	10.00 a.m.
	Monday	General Calegory	All candidates	
		General Category	B.E. group 1 to 500	2.00 p.m.
2	14-07-2009 Tuesday	General Category	B.E. group 501 onwards	10.00 a.m.
			All B.Pharm., B.Arch. and	
		General Category	BHMS groups	2.00 p.m.
			All candidates	

THIRD ROUND OF ADMISSION

Sr.No	Date & day	Categories	Group & Merit No.	Timing
1	30-07-2009 Thursday	All	All branches, All candidates	10.00 a.m.

Note: 1. LA and OGA candidates will be offered seats, if vacant, at the end of General Category rounds, for each branch, during each round of admissions.

2. During second and third round of admissions all vacancies, including vacancies created during the round will be filled up on the same day. All interested candidates are required to remain present till the end of the round.