NMAM INSTITUTE OF TECHNOLOGY
(An Autonomous Institution affiliated to VTU, Belgavi)
(NBA Accredited, ISO 9001:2008 Certified)
Nitte – 574110, Karkala, Udupi District, Karnataka, India

Annual Quality Assurance Report (AQAR)

For the Academic year 2015-16

Submitted to

National Assessment and Accreditation Council (NAAC)
P.O.Box: 1075, Nagarbhavi
Bangalore 560 072.

Annual Quality Assurance Report (AQAR)

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Part – A

AQAR for the year ***(for example 2013-14)*** 2015-16

1. Details of the Institution

1.1 Name of the Institution	N.M.A.M.Institute of Technology
1.2 Address Line 1	NITTE
Address Line 2	
City/Town	NITTE, Karkala Taluk, Udupi District
State	Karnataka
Pin Code	574110
Institution e-mail address	Principal_nmamit@nitte.edu.in
Contact Nos.	08258 281039
Name of the Head of the Institution:	Dr.Niranjan Chiplunkar
Tel. No. with STD Code:	08258 281264
Mobile:	9611266900
Name of the IQAC Co-ordinator:	Dr. Subrahmanya Bhat K

Mobile: 9449258142

IQAC e-mail address: subrahmanyabhat@nitte.edu.in

1.3 **NAAC Track ID** *(For ex. MHCOGN 18879)* KACOGN21141

1.4 **NAAC Executive Committee No. & Date:** EC(SC)/04/A&A/67 10/12/2014
(For Example EC/32/A&A/143 dated 3-5-2004. This EC no. is available in the right corner- bottom of your institution's Accreditation Certificate)

1.5 Website address: www.nmamit.nitte.edu.in

Web-link of the AQAR: www.nmamit.nitte.edu.in/AQAR2015-16.doc

For ex. http://www.ladykeanecollege.edu.in/AQAR2012-13.doc

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1st Cycle	B	2.70	December 2014	5 years
2	2nd Cycle				
3	3rd Cycle				
4	4th Cycle				

1.7 Date of Establishment of IQAC : DD/MM/YYYY 01/02/2001 (Revamped in February 2016)

1.8 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC (*(for example AQAR 2010-11submitted to NAAC on 12-10-2011)-NA*

i. AQAR _____ _____ (DD/MM/YYYY)4
ii. AQAR_____ _____ (DD/MM/YYYY)
iii. AQAR_____ _____ (DD/MM/YYYY)
iv. AQAR_____ _____ (DD/MM/YYYY)

1.9 Institutional Status

University State [✓] Central [ ] Deemed [ ] Private [ ]

Affiliated College Yes [✓] No [ ]

Constituent College Yes [ ] No [✓]

Autonomous college of UGC Yes [✓] No [ ]

Regulatory Agency approved Institution Yes [✓] No [ ]

(eg. AICTE, BCI, MCI, PCI, NCI)

Type of Institution Co-education [✓] Men [ ] Women [ ]

Urban [ ] Rural [✓] Tribal [ ]

Financial Status Grant-in-aid [ ] UGC 2(f) [✓] UGC 12B [ ]

Grant-in-aid + Self Financing [ ] Totally Self-financing [✓]

1.10 Type of Faculty/Programme

Arts [ ] Science [ ] Commerce [ ] Law [ ] PEI (Phys Edu) [ ]

TEI (Edu) [ ] Engineering [✓] Health Science [ ] Management [✓]

Others (Specify) [ ]

1.11 Name of the Affiliating University *(for the Colleges)* Visvsesvaraya Technological University (VTU), Belagavi

1.12 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc

Autonomy by State/Central Govt. / University YES

University with Potential for Excellence - UGC-CPE -

DST Star Scheme	-	UGC-CE	-
UGC-Special Assistance Programme	-	DST-FIST	-
UGC-Innovative PG programmes	-	Any other (*Specify*)	-
UGC-COP Programmes	-		

2. IQAC Composition and Activities

2.1 No. of Teachers	07
2.2 No. of Administrative/Technical staff	01
2.3 No. of students	01
2.4 No. of Management representatives	01
2.5 No. of Alumni	01*
2. 6 No. of any other stakeholder and community representatives	01**
2.7 No. of Employers/ Industrialists	01** (same as community representative)
2.8 No. of other External Experts	01* (same as Alumni)
2.9 Total No. of members	12
2.10 No. of IQAC meetings held	17(From 2001 onwards)

2.11 No. of meetings with various stakeholders: No. 17 Faculty 4

Non-Teaching Staff Students 5 Alumni 5 Others HoDs-14 (during last 1 year)

2.12 Has IQAC received any funding from UGC during the year? Yes ☐ No ☑

If yes, mention the amount

2.13 Seminars and Conferences (only quality related)

(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos. 1 International National State Institution Level 1 (during last one year)

(ii) Themes ISO Auditing and IQAC

2.14 Significant Activities and contributions made by IQAC

Regular meetings, Looking at grievances of stake holders, recommending improvements to the college management

2.15 Plan of Action by IQAC/Outcome

The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year *

Plan of Action	Achievements
To go through NAAC report received in December 2014 and look at improvements made and suggest corrective actions	Achieved

** Attach the Academic Calendar of the year as Annexure.*

Academic calendar is attached as Annexure-I

2.15 Whether the AQAR was placed in statutory body Yes ✓ No

Management Syndicate Any other body ✓

Provide the details of the action taken

Discussed the IQAC report in HoDs' meeting held on 8th June 2016 and placed and approved in the GC meeting held on 30th June 2016

Part – B

Criterion – I

1. Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	**10**	**Approved Research Centre**	**10**	
PG	**10**	**2**	**12**	
UG	**7**	**-**	**7**	
PG Diploma	**-**	**-**	**-**	
Advanced Diploma	**-**	**-**	**-**	
Diploma	**-**	**-**	**-**	
Certificate	**-**	**-**	**-**	
Others	**-**	**-**	**-**	
Total	**27**	**2**	**29**	

Interdisciplinary				
Innovative				

1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options

(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	7+12 = 19
Trimester	
Annual	

1.3 Feedback from stakeholders*Alumni [✓] Parents [✓] Employers [✓] Students [✓]
(On all aspects)

Mode of feedback :Online [ ] Manual [✓] Co-operating schools (for PEI) [ ]

Please provide an analysis of the feedback in the Annexure

1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.

Yes (Annexure – 2)

1.5 Any new Department/Centre introduced during the year. If yes, give details.

No

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
298	**206**	**41**	**51**	**-**

2.2 No. of permanent faculty with Ph.D. **62**

2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
14	**-**	**-**	**-**	**06**	**-**	**-**	**-**	**20**	**-**

2.4 No. of Guest and Visiting faculty and Temporary faculty **2** | 6 | -

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	**66**	**25**	**1**
Presented papers	**66**	**25**	**1**
Resource Persons	**-**	**2**	**1**

2.6 Innovative processes adopted by the institution in Teaching and Learning:

Use of ICT –Teaching Aids, Introduction of self study component, Audit courses and non credit mini projects. Use of NPTEL videos.

2.7 Total No. of actual teaching days during this academic year: 200 days

2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)

Coding of answer scripts, Double Valuation(PG), Online Multiple Choice Questions,Personal paper seeing

2.9 No. of faculty members involved in curriculum restructuring/revision/syllabus development as member of Board of Study/Faculty/Curriculum Development workshop: 120 | 95 | 10

2.10 Average percentage of attendance of students: **92%**

Course/Programme wise distribution of pass percentage :

NMAM INSTITUTE OF TECHNOLOGY, NITTE
CLASS : I SEM B.E. (Credit System)
BRANCHWISE RESULT ANALYSIS AFTER MAKEUP EXAM - DEC.2014-JAN.2015

Branch	Total appeared	>=7.75 in		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass
		No	%	No	%	No	%	No	%	No	%	No	%
COM	202	140	69.31	20	9.90	3	1.48	**0**	**0**	**39**	**19.31**	**163**	**80.69**
ELC	194	131	67.53	32	16.49	7	3.61	**0**	**0**	**24**	**12.37**	**170**	**87.63**
ELE	45	27	60	7	15.55	2	4.45	**0**	**0**	**9**	**20.00**	**36**	**80.00**
CIV	111	46	41.44	18	16.22	4	3.60	**2**	**1.80**	**41**	**36.94**	**70**	**63.06**
BT	47	12	25.53	9	11.15	2	4.26	**0**	**0**	**24**	**51.06**	**23**	**48.94**
ME	214	102	47.67	28	13.08	12	5.61	**0**	**0**	**72**	**33.64**	**142**	**66.36**
IS	62	36	58.06	14	22.59	1	1.61	**0**	**0**	**11**	**17.74**	**51**	**82.26**
Total result in %	**875**	**494**	**56.46**	**128**	**14.63**	**31**	**3.54**	**2**	**0.23**	**220**	**25.14**	**655**	**74.86**

NMAM INSTITUTE OF TECHNOLOGY, NITTE
CLASS : III SEM B.E. (Credit System)
BRANCHWISE RESULT ANALYSIS - DEC.2014-JAN.2015

Branch	Total appeared	>=7.75 in		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass
		No	%	No	%	No	%	No	%	No	%	No	%
COM	229	150	65.50	24	10.48	1	0.44	**1**	**0.44**	**53**	**23.14**	**176**	**76.86**
ELC	237	132	55.70	22	9.28	4	1.69	**0**	**0**	**79**	**33.33**	**158**	**66.67**
ELE	73	27	36.99	15	20.54	10	13.70	**0**	**0**	**21**	**28.77**	**52**	**71.23**
CIV	143	73	51.05	21	14.69	9	6.29	**1**	**0.70**	**39**	**27.27**	**104**	**72.73**
BT	49	30	61.22	9	18.37	0	0	**0**	**0**	**10**	**20.41**	**39**	**79.59**
ME	238	109	45.80	36	15.13	3	1.26	**2**	**0.84**	**88**	**36.97**	**150**	**63.03**
IS	71	41	57.75	7	9.85	1	1.41	**0**	**0**	**22**	**30.99**	**49**	**69.01**
Total result in %	**1040**	**562**	**54.04**	**134**	**12.88**	**28**	**2.69**	**4**	**0.38**	**312**	**30.00**	**728**	**70.00**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : V SEM B.E. (Credit System)

BRANCHWISE RESULT ANALYSIS - DEC.2014-JAN.2015

Branch	Total appeared	>=7.75 in		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass
		No	%	No	%	No	%	No	%	No	%	No	%
COM	236	148	62.71	21	8.90	2	0.85	**0**	**0**	**65**	**27.54**	**171**	**72.46**
ELC	217	93	42.86	42	19.35	13	5.99	**1**	**0.46**	**68**	**31.34**	**149**	**68.66**
ELE	72	41	56.94	15	20.83	3	4.17	**0**	**0**	**13**	**18.06**	**59**	**81.94**
CIV	159	94	59.12	22	13.84	4	2.51	**0**	**0**	**39**	**24.53**	**120**	**75.47**
BT	24	13	54.17	5	20.83	1	4.17	**0**	**0**	**5**	**20.83**	**19**	**79.17**
ME	249	140	56.22	29	11.65	6	2.41	**0**	**0**	**74**	**29.72**	**175**	**70.28**
IS	77	46	59.74	8	10.39	0	0	**1**	**1.30**	**22**	**28.57**	**55**	**71.43**
Total result in %	**1034**	**575**	**55.61**	**142**	**13.73**	**29**	**2.80**	**2**	**0.19**	**286**	**27.66**	**748**	**72.34**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : VII SEM B.E. (Credit System)

BRANCHWISE RESULT ANALYSIS - DEC.2014-JAN.2015

Branch	Total appeared	>=7.75 in		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass
		No	%	No	%	No	%	No	%	No	%	No	%
COM	165	142	86.07	17	10.30	2	1.21	**0**	**0**	**4**	**2.42**	**161**	**97.58**
ELC	167	116	69.46	13	7.78	2	1.20	**0**	**0**	**36**	**21.56**	**131**	**78.44**
ELE	77	59	76.62	9	11.69	0	0	**0**	**0**	**9**	**11.69**	**68**	**88.31**
CIV	88	50	56.82	13	14.77	4	4.55	**0**	**0**	**21**	**23.86**	**67**	**76.14**
BT	39	26	66.67	7	17.95	0	0	**0**	**0**	**6**	**15.38**	**33**	**84.62**
ME	233	149	63.95	38	16.31	7	3.00	**1**	**0.43**	**38**	**16.31**	**195**	**83.69**
IS	81	51	62.96	18	22.22	1	1.24	**0**	**0**	**11**	**13.58**	**70**	**86.42**
Total result in %	**850**	**593**	**69.76**	**115**	**13.53**	**16**	**1.88**	**1**	**0.12**	**125**	**14.71**	**725**	**85.29**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

I SEM P.G. (Credit System)

RESULT ANALYSIS(PERCENTAGEWISE) - DEC.2014-JAN.2015

Branch	Total appeared	>=7.75		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass in %
		Nos	%	Nos	%	Nos	%	Nos	%	Nos	%		

MCA	79	35	44.30	15	18.99	10	12.66	0	0	19	24.05	60	75.95
MBA	170	50	29.41	56	32.94	7	4.12	0	0	57	33.53	113	66.47
LEC	25	13	52	6	24	4	16	0	0	2	8	23	92.00
SCS	25	23	92	2	8	0	0	0	0	0	0	25	100.00
MES	9	8	89	1	11.11	0	0	0	0	0	0	9	100.00
CCT	18	15	83.33	2	11.11	0	0	0	0	1	5.56	17	94.44
VDE	18	12	66.66	3	16.67	3	16.67	0	0	0	0	18	100.00
MMD	17	11	64.70	3	17.66	1	5.88	0	0	2	11.76	15	88.24
SCN	18	16	88.88	1	5.56	0	0	0	0	1	5.56	17	94.44
EPE	16	12	75	3	18.75	1	6.25	0	0	0	0	16	100.00
Total result in %	**395**	**195**	**49.37**	**92**	**23.29**	**26**	**6.58**	**0**	**0**	**82**	**20.76**	**313**	**79.24**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

III SEM P.G. (Credit System)

RESULT ANALYSIS(PERCENTAGEWISE) - DEC.2014-JAN.2015

Branch	**Total appeared**	**>=7.75**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass in %**
		Nos	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**		
MCA	115	62	53.9	31	26.95	3	2.6	0	0	19	16.52	96	83.48
MBA	157	94	59.87	45	28.66	3	1.9	0	0	15	9.55	142	90.45
LEC	25	24	96	1	4	0	0	0	0	0	0	25	100.00
SCS	23	23	100	0	0	0	0	0	0	0	0	23	100.00
MES	15	14	93.33	0	0	0	0	0	0	1	6.67	14	93.33
CCT	19	18	94.74	0	0	1	5.26	0	0	0	0	19	100.00
VDE	18	18	100	0	0	0	0	0	0	0	0	18	100.00
MMD	17	17	100	0	0	0	0	0	0	0	0	17	100.00
SCN	17	17	100	0	0	0	0	0	0	0	0	17	100.00

Total result in %	**406**	**287**	**70.69**	**77**	**18.97**	**7**	**1.72**	**0**	**0**	**35**	**8.62**	**371**	**91.38**

NMAM INSTITUTE OF TECHNOLOGY, NITTE
V SEM P.G. (Credit System)
RESULT ANALYSIS(PERCENTAGEWISE) - DEC.2014-JAN.2015

Branch	**Total appeared**	**>=7.75**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass in %**
		Nos	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**		
MCA	120	114	95.00	4	3.33	0	0	0	0	2	1.67	118	98.33
Total result in %	**120**	**114**	**95.00**	**4**	**3.33**	**0**	**0**	**0**	**0**	**2**	**1.67**	**118**	**98.33**

NMAM INSTITUTE OF TECHNOLOGY, NITTE
CLASS : II SEM B.E. (Credit System)
BRANCHWISE RESULT ANALYSIS AFTER MAKEUP EXAM - MAY-JUNE 2015

Branch	**Total appeared**	**>=7.75 in**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass**
		No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
COM	202	135	66.83	19	9.41	7	3.46	**1**	**0.50**	**40**	**19.80**	**162**	**79.70**
ELC	194	128	65.98	25	12.89	4	2.06	**0**	**0**	**37**	**19.07**	**157**	**80.93**
ELE	45	25	55.55	8	17.78	3	6.67	**0**	**0**	**9**	**2.0**	**36**	**80.00**
CIV	111	47	42.34	14	12.61	5	4.5	**2**	**1.8**	**43**	**38.74**	**68**	**61.26**
BT	47	10	21.28	10	21.28	3	6.38	**0**	**0**	**24**	**51.06**	**23**	**48.94**
ME	213	93	43.66	24	11.27	8	3.75	**3**	**1.41**	**85**	**39.91**	**128**	**60.09**
IS	62	39	62.29	5	8.06	3	4.83	**0**	**0**	**15**	**24.19**	**47**	**75.81**
Total result in %	**874**	**477**	**54.46**	**105**	**12.01**	**33**	**3.78**	**6**	**0.69**	**253**	**28.95**	**621**	**71.05**

NMAM INSTITUTE OF TECHNOLOGY, NITTE
CLASS : IV SEM B.E. (Credit System)
BRANCHWISE RESULT ANALYSIS - MAY-JUNE 2015

Branch	Total appeared	>=7.75 in		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass
		No	%	No	%	No	%	No	%	No	%	No	%
COM	228	112	49.12	34	14.91	4	1.75	**0**	**0**	**78**	**34.21**	**150**	**65.79**
ELC	237	121	51.05	34	14.35	8	3.38	**0**	**0**	**74**	**31.22**	**163**	**68.78**
ELE	73	32	22.38	13	17.81	0	0	**1**	**1.4**	**27**	**36.99**	**46**	**63.01**
CIV	143	80	55.94	19	13.29	3	2.10	**0**	**0**	**41**	**28.67**	**102**	**71.33**
BT	49	29	59.18	8	16.32	1	2.04	**0**	**0**	**11**	**22.45**	**38**	**77.55**
ME	238	109	45.80	35	14.71	9	3.78	**1**	**0.42**	**84**	**35.29**	**154**	**64.71**
IS	71	38	53.52	8	11.27	2	2.82	**0**	**0**	**22**	**30.99**	**48**	**68.57**
Total result in %	**1039**	**521**	**50.19**	**151**	**14.55**	**27**	**2.60**	**2**	**0.19**	**337**	**32.47**	**701**	**67.53**

NMAM INSTITUTE OF TECHNOLOGY, NITTE
CLASS : VI SEM B.E. (Credit System)
BRANCHWISE RESULT ANALYSIS - MAY-JUNE 2015

Branch	Total appeared	>=7.75 in		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass
		No	%	No	%	No	%	No	%	No	%	No	%
COM	236	170	72.03	28	11.86	2	0.08	**0**	**0**	**36**	**15.68**	**200**	**84.75**
ELC	217	135	62.21	37	17.05	14	6.45	**2**	**0.09**	**29**	**13.36**	**188**	**86.64**
ELE	72	53	73.61	9	12.5	1	1.39	**0**	**0**	**9**	**12.50**	**63**	**87.50**
CIV	159	96	60.38	25	15.72	5	3.14	**1**	**0.06**	**32**	**20.13**	**127**	**79.87**
BT	24	14	58.33	2	8.33	0	0	**0**	**0**	**8**	**33.33**	**16**	**66.67**
ME	249	119	47.79	56	22.49	3	1.20	**0**	**0**	**71**	**28.51**	**178**	**71.49**
IS	77	44	57.14	12	15.58	2	2.60	**0**	**0**	**19**	**24.68**	**58**	**75.32**
Total result in %	**1034**	**631**	**61.03**	**169**	**16.34**	**27**	**2.61**	**3**	**0.29**	**204**	**19.73**	**830**	**80.27**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : VIII SEM B.E. (Credit System)

BRANCHWISE RESULT ANALYSIS - MAY-JUNE 2015

Branch	**Total appeared**	**>=7.75 in**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass**
		No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
COM	165	165	100.00	0	0	0	0	**0**	**0**	**0**	**0**	**165**	**100.00**
ELC	167	140	83.83	15	8.98	0	0	**0**	**0**	**12**	**7.19**	**155**	**92.81**
ELE	77	72	93.51	4	5.19	0	0	**0**	**0**	**1**	**1.30**	**76**	**98.70**
CIV	87	79	90.80	1	1.15	0	0	**0**	**0**	**7**	**8.05**	**80**	**91.95**
BT	39	30	76.92	6	15.38	1	2.56	**0**	**0**	**2**	**5.13**	**37**	**94.87**
ME	233	192	82.40	16	6.87	3	1.29	**0**	**0**	**22**	**9.44**	**211**	**90.56**
IS	81	74	91.36	3	3.70	0	0	**0**	**0**	**4**	**4.94**	**77**	**95.06**
Total result in %	**849**	**752**	**88.57**	**45**	**5.30**	**4**	**0.47**	**0**	**0**	**48**	**5.65**	**801**	**94.35**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : II SEM P.G. (Credit System) EXAMS : MAY - JUNE.2015

RESULT ANALYSIS(PERCENTAGEWISE)

Branch	**Total appeared**	>=7.75		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass in %
		Nos	%	Nos	%	Nos	%	Nos	%	Nos	%		
MCA	79	36	45.57	16	20.25	5	6.33	2	2.53	20	25.32	59	74.68
MBA	170	93	54.71	41	24.12	3	1.76	0	0	33	19.41	137	80.59
LEC	25	19	76.00	3	12.00	1	4.00	0	0	2	8.00	23	92.00
SCS	26	22	84.62	3	11.54	0	0	0	0	1	3.85	25	96.15
MES	9	7	77.78	1	77.78	0	0	0	0	1	11.11	8	88.89
CCT	18	18	100.00	0	22.22	0	0	0	0	0	0	18	100.00
LVS	18	11	61.11	4	61.11	0	0	0	0	3	16.67	15	83.33
MMD	17	12	70.59	3	70.59	0	0	0	0	2	11.76	15	88.24
SCN	18	14	77.78	2	77.78	0	0	0	0	2	11.11	16	88.89
EPE	16	11	68.75	0	0	0	0	0	0	5	31.25	11	68.75
Total result in %	**396**	**243**	**61.36**	**72**	**18.18**	**9**	**2.27**	**2**	**0.51**	**69**	**17.42**	**327**	**82.58**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : IV SEM P.G. (Credit System) EXAMS : MAY - JUNE.2015

RESULT ANALYSIS(PERCENTAGEWISE)

Branch	Total appeared	>=7.75		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass in %
		Nos	%	Nos	%	Nos	%	Nos	%	Nos	%		
MCA	115	87	75.65	11	9.57	3	2.61	0	0	14	12.17	101	87.83
MBA	157	95	60.51	42	26.75	1	0.64	0	0	19	13.38	138	87.90
LEC	25	25	100.00	0	0	0	0	0	0	0	0	25	100.00
SCS	23	23	100.00	0	0	0	0	0	0	0	0	23	100.00
MES	15	15	100.00	0	0	0	0	0	0	0	0	15	100.00
CCT	19	19	100.00	0	0	0	0	0	0	0	0	19	100.00
LVS	18	17	94.44	0	0	0	0	0	0	1	5.56	17	94.44
MMD	17	16	94.12	0	0	0	0	0	0	1	5.88	16	94.12
SCN	17	16	94.12	1	5.88	0	0	0	0	0	0	17	100.00
Total result in %	**406**	**313**	**77.09**	**54**	**13.30**	**4**	**0.99**	**0**	**0**	**35**	**8.62**	**371**	**91.38**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

VI SEM P.G. (Credit System)

RESULT ANALYSIS(PERCENTAGEWISE) - MAY-JUNE 2015

Branch	Total appeared	>=7.75		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass in %
		Nos	%	Nos	%	Nos	%	Nos	%	Nos	%		
MCA	120	120	100.00	0	0	0	0	0	0	0	0	120	100.00
Total result in %	**120**	**120**	**100.00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**120**	**100.00**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : I SEM B.E. (Credit System)

BRANCHWISE RESULT ANALYSIS AFTER MAKEUP EXAM - DEC.2015-JAN.2016

Branch	Total appeared	>=7.75 in		>=6.75<7.75		>=5.75<6.75		>=5<5.75		<5.0/Fail		Pass	Total Pass
		No	%	No	%	No	%	No	%	No	%	No	%

COM	197	132	67.00	24	12.18	5	2.5	**1**	**0.50**	**35**	**17.77**	**162**	**82.23**
ELC	190	125	65.79	30	15.79	6	3.16	**1**	**0.52**	**28**	**14.74**	**162**	**85.26**
ELE	54	31	57.41	8	14.81	2	3.7	**1**	**1.85**	**12**	**22.22**	**42**	**77.78**
CIV	120	43	35.83	20	16.67	3	2.5	**0**	**0**	**54**	**45.00**	**66**	**55.00**
BT	49	23	46.94	10	20.41	0	0	**0**	**0**	**16**	**32.65**	**33**	**67.35**
ME	208	104	50	26	12.5	9	4.33	**2**	**0.96**	**67**	**32.21**	**141**	**67.79**
IS	64	37	57.81	9	14.06	3	4.69	**0**	**0**	**15**	**23.44**	**49**	**76.56**
Total result in %	**882**	**495**	**56.12**	**127**	**14.40**	**28**	**3.17**	**5**	**0.57**	**227**	**25.74**	**655**	**74.26**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : III SEM B.E. (Credit System)

BRANCHWISE RESULT ANALYSIS - DEC.2015-JAN.2016

Branch	**Total appeared**	**>=7.75 in**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass**
		No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
COM	238	163	68.49	23	9.67	6	2.52	**0**	**0**	**46**	**19.33**	**192**	**80.67**
ELC	225	103	45.78	32	14.22	8	3.55	**1**	**4.44**	**81**	**36.00**	**144**	**64.00**
ELE	75	33	44.00	22	29.33	2	2.67	**0**	**0**	**18**	**24.00**	**57**	**76.00**
CIV	141	56	39.72	23	16.31	15	10.64	**3**	**2.13**	**44**	**31.21**	**97**	**68.79**
BT	41	18	43.90	13	31.71	3	7.32	**0**	**0**	**7**	**17.07**	**34**	**82.93**
ME	242	87	35.95	48	19.83	10	4.13	**2**	**0.83**	**95**	**39.26**	**147**	**60.74**
IS	75	36	48.00	18	24.00	1	1.33	**0**	**0**	**20**	**26.69**	**55**	**73.33**
Total result in %	**1037**	**496**	**47.83**	**179**	**17.26**	**45**	**4.34**	**6**	**0.58**	**311**	**29.99**	**726**	**70.01**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : V SEM B.E. (Credit System)

BRANCHWISE RESULT ANALYSIS - DEC.2015-JAN.2016

Branch	**Total appeared**	**>=7.75 in**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass**
		No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
COM	213	158	74.18	24	11.27	1	4.69	**0**	**0**	**30**	**14.08**	**183**	**85.92**

ELC	231	130	56.28	36	15.58	6	2.60	**0**	**0**	**59**	**25.54**	**172**	**74.46**
ELE	67	35	52.24	17	25.37	1	1.49	**0**	**0**	**14**	**20.89**	**53**	**79.10**
CIV	143	72	50.35	26	18.18	10	6.99	**1**	**070**	**34**	**23.78**	**109**	**76.22**
BT	44	26	59.09	8	18.18	5	11.36	**0**	**0**	**5**	**11.36**	**39**	**88.64**
ME	231	139	60.17	28	12.12	6	2.60	**1**	**0.43**	**57**	**24.68**	**174**	**75.32**
IS	64	42	65.63	4	6.25	2	3.13	**0**	**0**	**16**	**25.00**	**48**	**75.00**
Total result in %	**993**	**602**	**60.62**	**143**	**14.40**	**31**	**3.12**	**2**	**0.20**	**215**	**21.65**	**778**	**78.35**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

CLASS : VII SEM B.E. (Credit System)

BRANCHWISE RESULT ANALYSIS - DEC.2015-JAN.2016

Branch	**Total appeared**	**>=7.75 in**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass**
		No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
COM	232	199	85.78	20	86.21	2	0.86	**0**	**0**	**11**	**4.74**	**221**	**95.26**
ELC	212	131	61.79	35	16.51	6	2.83	**0**	**0**	**40**	**18.87**	**172**	**81.13**
ELE	74	55	74.32	6	81.08	2	2.70	**0**	**0**	**11**	**14.86**	**63**	**85.14**
CIV	154	108	70.13	18	11.69	3	19.48	**0**	**0**	**25**	**16.23**	**129**	**83.77**
BT	24	16	66.67	3	12.5	1	4.17	**0**	**0**	**4**	**16.67**	**20**	**83.33**
ME	242	158	65.29	32	13.22	8	3.31	**1**	**0.41**	**43**	**17.77**	**199**	**82.23**
IS	75	67	89.33	3	4.00	0	0	**0**	**0**	**5**	**6.67**	**70**	**93.33**
Total result in %	**1013**	**734**	**72.46**	**117**	**11.55**	**22**	**2.17**	**1**	**0.10**	**139**	**13.72**	**874**	**86.28**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

I SEM P.G. (Credit System)

RESULT ANALYSIS(PERCENTAGEWISE) - DEC.2015-JAN.2016

Branch	**Total appeared**	**>=7.75**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		<5.0/Fail		Pass	Total Pass in %
		Nos	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**		

MCA	91	21	23.08	19	20.88	13	14.29	0	0	38	41.76	53	58.24
MBA	179	82	45.81	41	22.91	1	0.55	0	0	55	30.73	124	69.27
LEC	21	8	38.10	6	28.57	0	0	0	0	7	33.33	14	66.67
SCS	21	21	100.00	0	0	0	0	0	0	0	0	21	100.00
MES	9	4	44.44	1	11.11	2	22.22	0	0	2	22.22	7	77.78
CCT	17	12	70.59	4	23.53	0	0	0	0	1	5.88	16	94.12
VDE	18	11	61.11	3	16.67	2	11.11	0	0	2	11.11	16	88.89
MMD	16	11	68.75	4	25.00	1	6.25	0	0	0	0	16	100.00
SCN	14	11	78.57	3	21.43	0	0	0	0	0	0	14	100.00
EPE	14	12	85.71	2	14.29	0	0	0	0	0	0	14	100.00
IBT	5	5	100.00	0	0	0	0	0	0	0	0	5	100.00
SSE	5	4	80.00	0	0	0	0	0	0	1	20.00	4	80.00
Total result in %	**410**	**202**	**49.27**	**83**	**20.24**	**19**	**4.63**	**0**	**0**	**106**	**25.85**	**304**	**74.15**

NMAM INSTITUTE OF TECHNOLOGY, NITTE
III SEM P.G. (Credit System)
RESULT ANALYSIS(PERCENTAGEWISE) - DEC.2015-JAN.2016

Branch	**Total appeared**	**>=7.75**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		Pass	**Total Pass in %**
		Nos	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**		
MCA	99	41	41.44	30	30.30	9	9.09	0	0	19	19.19	80	80.81
MBA	170	85	50	44	25.88	2	1.18	0	0	39	22.94	131	77.06
LEC	25	22	88	2	8.00	0	0	0	0	1	4.00	24	96.00
SCS	25	25	100	0	0	0	0	0	0	0	0	25	100.00
MES	9	9	100	0	0	0	0	0	0	0	0	9	100.00

CCT	18	18	100	0	0	0	0	0	0	0	0	18	100.00
LVS	18	16	88.88	1	0.056	0	0	0	0	1	0.56	17	94.44
MMD	17	17	100	0	0	0	0	0	0	0	0	17	100.00
SCN	18	17	94.44	0	0	0	0	0	0	1	5.55	17	94.44
EPE	16	16	100	0	0	0	0	0	0	0	0	16	100.00
Total result in %	**415**	**266**	**64.10**	**77**	**18.55**	**11**	**2.65**	**0**	**0**	**61**	**14.70**	**354**	**85.30**

NMAM INSTITUTE OF TECHNOLOGY, NITTE

V SEM P.G. (Credit System)

RESULT ANALYSIS(PERCENTAGEWISE) - DEC.2015-JAN.2016

Branch	**Total appeared**	**>=7.75**		**>=6.75<7.75**		**>=5.75<6.75**		**>=5<5.75**		**<5.0/Fail**		**Pass**	**Total Pass in %**
		Nos	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**	**Nos**	**%**		
MCA	114	100	87.72	7	6.14	0	0	0	0	7	6.14	107	93.86
Total result in %	**114**	**100**	**87.72**	7	6.14	0	0	0	0	7	6.14	107	93.86

2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes :

- Conducting regular meeting with HODs to discuss the effectiveness of teaching learning process, analysis of attainment of course outcomes.
- IQAC monitors the feedback analysis of students
- Initiated Performance appraisal of faculty members.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	*Number of faculty benefitted*
Refresher courses	10
UGC – Faculty Improvement Programme	05
HRD programmes	08
Orientation programmes	15
Faculty exchange programme	4
Staff training conducted by the university	15
Staff training conducted by other institutions	-

Summer / Winter schools, Workshops, etc.	55
Others	75

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	**341**	**-**	**3**	**2**
Technical Staff	**110**	**-**	**1**	**-**

Criterion – III

3. Research, Consultancy and Extension

3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

For Faculty of the Institution

- Faculty members are given leave with pay to pursue Ph. D.
- Incentives are given in the form of promotions and monitory benefit for research publications, reviewing research articles, procuring research grants.
- Faculty members are provided with financial assistance towards travel and registration fee to present paper in national/international conference.
- Sabbatical leave is given to faculty members pursuing part- time PhD programme, for completing the crucial part of their Ph.D work
- Short fall in grant given by funding agencies is made up by the management
- Reduction in academic work load is provided for the faculty with external research grants.
- Linkages with national and International university have been established with an intention of having faculty exchange so that the faculty could improve their research output

For Ph.D Students

- The College is offering full time PhD scholars and stipend is given for 3 years
- Every year part time Ph. D students of our Institution are encouraged to present their research work during "Research Conclave" held in the college

For UG/PG Students

- Undergraduate and PG students are encouraged to present papers in

national/international conferences and their travel and registration expenses are partly met

- UG students are encouraged to take research based Audit course during summer vacation
- UG students are encouraged to participate in summer internship, summer projects, product development, and incubation activity. The funding for such activities is provided by the college. (Example: student SAE BAJA project, Robotic projects, Mobile App Development, plasmid culture development)
- MoUs have been signed with foreign Universities and UG & PG students have been deputed for carrying out their projects.

For the Institution

- Encouragement for Faculty Collaboration
- Appointment of Professors of International Repute
- Introducing the practice of commercialisation of patents

3.2 Details regarding major projects

	Completed-(in the last 5 years)	Ongoing	Sanctioned	Submitted
Number	17	04	-	5
Outlay in Rs. Lakhs	110.57	74.53	-	2500

3.3 Details regarding minor projects

	Completed(in the last 5 years)	Ongoing	Sanctioned	Submitted
Number	27	1	-	-
Outlay in Rs. Lakhs	3.08	0.4	-	-

3.4 Details on research publications

	International (Current year)	National(Current Year)	Others
Peer Review Journals	68	00	-
Non-Peer Review Journals	-	-	-
e-Journals			
Conference proceedings	37	02	-

3.5 Details on Impact factor of publications:

Range 0-2.702 Average 0.361 h-index 77 (All) Nos. in SCOPUS 9

3.6 Research funds sanctioned and received from various funding agencies, industry and other Organisations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant Sanctioned (Lakhs)	Received(Lakhs)
Major projects	2015	VGST	4.30	4.30
Minor Projects	2015	KSCST, NID Ahmedabad, VGST	1.97	1.97
Interdisciplinary Projects	2012-2015	NMAMIT	6.00	6.00
Industry sponsored				
Projects sponsored by the University/ College	2015-16		6.75	6.75
Students research projects *(other than compulsory by the University)*				
Any other(Specify)				
Total				

3.7 No. of books published i) With ISBN No. 01 Chapters in Edited Books 0

ii) Without ISBN No. 0 0

3.8 No. of University Departments receiving funds from

UGC-SAP - CAS - DST-FIST -

DPE - DBT Scheme/funds -

3.9 For colleges Autonomy - CPE - DBT Star Scheme -

INSPIRE - CE - Any Other (specify) -

3.10 Revenue generated through consultancy Rs(lakhs) =9.84

3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	1	3	0	0	0
Sponsoring agencies	TEQIP-II	TEQIP-II	TEQIP-II		

3.12 No. of faculty served as experts, chairpersons or resource person 37

3.13 No. of collaborations International 03 National 15 Any other

3.14 No. of linkages created during this year 02

3.15 Total budget for research for current year in lakhs :

From funding agency 20 Lakhs From Management of University/College 56.5 lakhs

Total 76.5 lakhs

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	1
	Granted	-
International	Applied	1
	Granted	-
Commercialised	Applied	-
	Granted	-

3.17 No. of research awards/ recognitions received by faculty and research fellows Of the institute in the year

Total	International	National	State	University	Dist	College
	3	4				

3.18 No. of faculty from the Institution who are Ph. D. Guides 35
and students registered under them 88

3.19 No. of Ph.D. awarded by faculty from the Institution (current year) 00

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

JRF 01 SRF Project Fellows Any other 03

3.21 No. of students Participated in NSS events:

University level 0 State level 0

National level 0 International level 0

3.22 No. of students participated in NCC events:

University level - State level -

National level - International level -

3.23 No. of Awards won in NSS:

University level - State level -

National level - International level -

3.24 No. of Awards won in NCC:

University level - State level -

National level - International level -

3.25 No. of Extension activities organized

University forum - College forum 15

NCC - NSS 03 Any other 06

3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility

- Students participated in Swach Bharath abhiyan held in the college
- IEEE Programme on "Beyond the Bulb" was organised for school children
- Demonstration on Bio fuel Production was held for school children
- Student were involved in planting of Biofuel sapling
- Erection of road dividers was carried out

Criterion – IV

4. Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area, Acres	119.01	--	Nitte Education Trust	119.01
Class rooms, Sq.m /(Nos.)	8850.05 (94)	--	-do-	8850.05 (94)

Laboratories, Sq.m /(Nos.)	7670.93 (73)	--	-do-	7670.93 (73)
Seminar Halls, Sq.m /(Nos.)	1828.86 (14)	--	-do-	1828.86 (14)
No. of important equipments purchased (≥ 1-0 lakh) during the current year.	-	9	-do-	9
Value of the equipment purchased during the year (Rs. in Lakhs)	177.11	28.89	-do-	206.41
Others (Rs. in Lakhs)	53.77	--	-do-	53.77

4.2 Computerization of administration and library

1. **Administration:** i) Employee salary database through Human Resources Management System (HRMS) ii) Employee leave details through Smart Campus.

2. **Library:** i) The library user services are automated ii) Books are Bar Coded. iii) Circulation of books is aided by the computer systems iv) The library information is available for students in smart campus v) The stock verification is through system scanning of bar code vi) availability of online digital library and repository (offline) of learning resources vii) Availability of all syllabus, notes, question papers etc on the college Intranet (moodle). Viii) Full-pledged audio-visual section for self-study.

4.3 Library services:

	Existing		**Newly added**		**Total**	
	No.	**Value (Rs. lakhs)**	**No.**	**Value (Rs. lakhs)**	**No.**	**Value (Rs. lakhs)**
Text Books	74065	218.13	2891	17.88	76956	236.01
Reference Books	21220	Included above	-	-	21220	Included above
e-Books	13139	-	-	-	-	*
Journals	246	4.5	32	1.00	278	5.5
e-Journals	6197	-	-	-	-	*
Digital Database	10	25.37	(10)	(25.37)	10	25.37*
CD & Video	135	2.5	--	--	135	2.5**
Others (specify) DVD (back-up)	2601	52.02	--	--	2601	52.02

* AICTE-Indest consortium of on-line journals through VTU, Belagavi. *Value included under digital database

** NEI Films Ltd., Mumbai

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart-ments	Others
Existing	1300	32	100 mbps	1	7	7	7	-
Added	160	0	0	0	0	0	0	-
Total	1460	32	100 mbps	1	7	7	7	-

4.5 Computer, Internet access, training to teachers and students and any other programme for technology upgradation (Networking, e-Governance etc.)

Cyberoam CCNSP (Cyberoam Certified Network & Security Professional) Initiative training from Sophos for staff for technology upgradation in 2016.

4.6 Amount spent on maintenance in lakhs :

i) ICT	2.9
ii) Campus Infrastructure and facilities	67.78
iii) Equipment	7.21
iv) Others	53.48
Total :	131.37

Criterion – V
5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

- College website and Notice board – The college website is regularly updated to provide information about the college facilities, activities and programs, faculty and other facilities available. Student related information are regularly put in the website and notice board, including examination results. Notice boards are regularly made use for providing information on a day to day basis. SMS facility is made use of providing urgent and important information and individual exam result.

- College calendar and magazine – This provides information about the courses offered in different programs, electives, number of credits, rules and regulations etc. College magazine provides yearly report of all activities carried out in the college.

- Entrepreneur Development Cell – The cell provides all necessary support to the students of the college and students from outside and neighbouring colleges. Students from diploma and ITI are trained in various skills through various skill development programs

either through inhouse or external support. Students are trained and motivated to become entrepreneurs.

- Grievance Redressal Cell – This cell addresses the grievances of students and parents on a regular basis.

- Placement & Training Centre – This centre provides all support to the students for placement and internships. They are regularly trained on various aspects like written test, group discussion and interviews.

- Library & Information centre – This provides all information about books, e-resources, journals and magazines for academic and other related activities.

- National Service Scheme (NSS) – The college has an active NSS cell, which organizes several activities which are useful to the students, college and the nearby villages. This includes Blood donation camps, planting samplings, awareness about environmental degradation and pollution etc.

- Student associations – Student associations of various departments conduct several programs for the benefit of the students. This is meant to provide a platform to the students to exhibit their talents and skills.

- Hobby clubs – There are a number of hobby clubs, which take up several activities for the benefit of the student community and nearby communities. This includes photography, dance and music, drama, conservation of the environment, utilization of waste food etc.

5.2 Efforts made by the institution for tracking the progression

The progression of a student both academically and otherwise is done regularly through various modes. This helps in keeping track of the growth and development of a student and providing him / her necessary support for the overall development of personality. Some of the systems that are available include are as follows –

- Student monitoring cell – There is an exclusive cell for monitoring the students at the first year level, headed by a First year Coordinator.

- Class Advisors – At the department level, there are class advisors for each class, who help, guide and monitor the students with regard to academic performance which includes attendance and marks.

- Class Committee – This works at the department level for redressing departmental level grievances, which include academic and others.

- Result Analysis – This is done by the faculty at the individual and at the department level and students are counselled to improve their performance.

- IQAC – IQAC monitors all issues related to academics, administration, infrastructure and other student related matters. Student representatives are invited to the IQAC meetings. IQAC tries to improve the quality level in the organization.
- Student feedback – This is collected regularly to improve the teaching-learning process.
- Parent meetings – A parent meeting is held once every semester, particularly for poor performers at the first year level. During this meeting parents interact with the Principal, Deans and teachers to get their feedback.

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
3928	947	73	

(b) No. of students outside the state: 766

(c) No. of international students: -

d) Men

No	%
3245	66

Women

No	%
1630	34

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
2434	285	72	1932	4	4727	2612	243	52	1964	4	4875

Demand ratio 885/1008 Dropout % 0.02

5.4 Details of student support mechanism for coaching for competitive examinations (If any)

Coaching classes for students to attend UPSC and defence service examinations are arranged from professional trainers.

Department associations arrange Gate coaching classes for the interested students.

GRE classes conducted by TIME (Triumphant Institute for Management Studies) started from mid of September 2015.

No. of students beneficiaries: 110

5.5 No. of students qualified in these examinations

NET		SET/SLET		GATE	24	CAT	01
IAS/IPS etc		State PSC		UPSC		Others	

5.6 Details of student counselling and career guidance

- Fresher's orientation with the help of trained senior student volunteers -To help adapt, Make friends, Know caring seniors and Anticipatory guidance
- Mission Prerana for Change to make them wholesome world class citizens
- Orient Lateral entry students to help belong, boost morale, help with English, math
- Preparation for placements; Crack the Campus (training by campus' placed students in aptitude, technical, HR interview preparation, GDs)
- Professional Counselling services; Club membership to cater to 12 talent related areas of functioning; use of peer helpers; Celebrating Abhyuday Diwas
- Prevention of Sexual harassment & gross Indiscipline

No. of students benefited 4500

5.7 Details of campus placement

On campus			***Off Campus***
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
71	860	641	

5.8 Details of gender sensitization programmes

The Institution has an Anti Sexual harassment committee. The Institution celebrated International Women's Day on 08.03.2016.

5.9 Students Activities

5.9.1 No. of students participated in Sports, Games and other events

State/ University level 248 National level 16 International level ---

No. of students participated in cultural events

State/ University level | 147 | National level | 178 | International level

5.9.2 No. of medals /awards won by students in Sports, Games and other events | --

Sports : State/ University level | 91 | National level | --- | International level | ---

Cultural: State/ University level | 18 | National level | 27 | International level | --

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	476	Rs.3,30,69,695
Financial support from government	2162	Rs.3,67,88,250
Financial support from other sources		
Number of students who received International/ National recognitions	10	**Rs. 6,53,268/-**

5.11 Student organised / initiatives

Fairs : State/ University level | 2 | National level | - | International level | -

Exhibition: State/ University level | 1 | National level | - | International level | -

5.12 No. of social initiatives undertaken by the students | 6

5.13 Major grievances of students (if any) redressed: __The grievances and students problems are resolved at the level of Proctor, class advisor, Heads of the Departments and Deans as the seriousness of the problem. No major grievances are received from students in this academic year.

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

Vision: Pursuing Excellence, Empowering people, Partnering in Community Development.

Mission: To develop NMAM Institute of Technology, Nitte, as Centre of Excellence by imparting Quality Education to generate Competent, Skilled and Human Manpower to face emerging Scientific, Technological, Managerial and Social Challenges with Credibility, Integrity, Ethics and Social Concern.

6.2 Does the Institution has a management Information System

YES

6.3 Quality improvement strategies adopted by the institution for each of the following:

6.3.1 Curriculum Development

Every year, the Curriculum is upgraded and modified looking at the needs of Industry and latest technological developments. For this, the BoS members of all UG and PG programs in engineering and management drawn from Industry, Alumni and leading Institutes, brainstorm and formulate a curriculum which is in line with the current trends. Course outcomes, course learning objectives, program outcomes and program educational objectives are clearly spelt and their attainments are evaluated.

6.3.2 Teaching and Learning

Teaching and learning is more student oriented. Efforts are being made to use different concepts like project based learning, active learning etc. Faculty and students are encouraged to use E-resources like NPTEL, EDUSAT, E-learning tools like MOOCs for the teaching-learning process. Faculty are encouraged to produce video lectures, which are made available to the students to support 'learning-at-one's own pace. Students and faculty make use of the Youtube videos and resources available in the digital library of the college.

6.3.3 Examination and Evaluation

Questions in the question papers are formed strictly based on Bloom's taxonomy. Proper rubrics are developed and used for seminar and project evaluation. Equal weightage is given both for Continuous Internal Evaluation (CIE) and Semester End Examination (SEE) question papers. Evaluation involves both internal and external components. Question papers are set by both internal and external setters. Evaluation of few of the subjects is regularly subjected to double scrutiny, to improve the standards of evaluation. Coding of the answer scripts are being implemented to bring in secrecy.

6.3.4 Research and Development

Separate Centre for Research and innovation has been established. A Director (R&D) with more than 30 years of research experience and having International patents has been appointed on full time basis. The Dean (R&D) manages the regular R & D activities of the institution. Research incentives are provided to the faculty for publications, application and obtaining patents, obtaining external funding, review of technical papers of reputed journals and conferences. Full time research scholars are now being admitted. Interdisciplinary research is being encouraged. A number of funded projects from leading govt. agencies like AICTE, New Delhi, DST, New Delhi, VGST, Bangalore, DBT, New Delhi etc. are being implemented successfully.

6.3.5 Library, ICT and physical infrastructure / instrumentation

Membership to all major online research journals (like IEEE, ASME, ACME, Springer online, Taylor & Francis etc.) pertaining to all the programs at an annual subscription of about Rs.20 lakhs has been taken. Institute continues to be a member of DELNET. More than 60000 volumes of engineering books have been stacked in the library. A digital library has been established with all standard E-resources including NPTEL videos, DVDs of lectures from leading repositories of the world etc. A 100Mbps internet leased line and campus wide Wi-Fi has made accessibility to all these e-resources by students very easy.

6.3.6 Human Resource Management

The Institute has a well-defined HR and promotion policy. All the teaching faculty positions have been filled. More than 55 faculty members are with Ph.D. qualifications and about 80 faculty members are doing their Ph.D. Faculty members with PG qualification are encouraged to do their Ph.D. This is done either on part-time basis or on full time basis through deputation to well known institutes like IITs and NITs. Regular training for non-teaching staff on topics like communication, interpersonal skills and basic skills of computer is arranged centrally by inviting resource persons from the Nitte University Staff Development College. Faculty and staff of the institution are given free medical facilities. They are also provided with state of the art sports facilities like gymnasium, sports ground etc. for playing sports during the evenings and relaxing.

6.3.7 Faculty and Staff recruitment

Once in a year, advertisements are given in the leading News papers to fill up vacancies in faculty and staff positions if any. External experts from leading institutions are involved in the recruitment procedure and they are invited based on the specialization of the faculty to be recruited. The recruitment of faculty and staff is done based on a well established recruitment procedure.

6.3.8 Industry Interaction / Collaboration

The Institute has very active MoUs with Industries like Infosys, Span infotech, IBM etc., for faculty and student training. Student internship for all the placed students is a reality from last 2 years. Intel and Nvidia have provided their processor kits, free of cost for the student training. M/s Hexmoto systems Mysore has established its R&D centre at our Institute, which is helping some of our PG students in carrying out their project work in the area of Electrical engineering. We have signed an MoU with Wipro technologies for training in embedded domain. Lamina Foundry and Lamina Suspensions Pvt. Ltd., which are two process oriented companies, run by our own Management help the concerned students to undertake projects and practical training at their facility. Students from MCA department are being given exposure to real time projects from Industries by having the presence of some leading IT companies in the campus.

6.3.9 Admission of Students

Every year since its inception 30 years back, the Institute has been getting all its approved seats filled. In the recent years, we have seen an improvement in the quality of student intake. Over the years, the number of UG and PG programs and the sanctioned intake in these various programs have been increasing. Some initiatives taken to encourage students to seek admission in the institution include seats under sports quota and scholarships for meritorious students.

6.4 Welfare schemes for

Teaching	YES
Non teaching	YES
Students	YES

6.5 Total corpus fund generated | Rs. 4, 23,65,149 |

6.6 Whether annual financial audit has been done Yes [✓] No [ ]

6.7 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	YES	NVT QC	YES	Dean (Academic)
Administrative	YES	NVT QC	YES	Chairman, GC

6.8 Does the University/ AutonomousCollege declares results within 30 days?

For UG Programmes Yes [✓] No [ ]

For PG Programmes Yes [✓] No [ ]

6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

Evaluation of answer scripts and preparation of question papers include internal as well as external component. Coding of answer scripts are being implemented to maintain secrecy. Bloom's taxonomy levels are included in the QPs to indicate the level of learning. A well drafted examination procedure and manual is in place, which includes pre-examination, examination and post examination, covering all the aspects. Students and faculty are well informed about all the important events in the academic schedule through the academic calendar. Email and SMS is used very effectively to inform the faculty and students of all matters related to examination. Efforts are thus being made to reduce the use and consumption of paper and to adopt environmental conservation measures. The COE conducts orientation program for the newly joined faculty regarding examination process / scheme of evaluation. The CIE includes two mid semester examinations and quizzes, tests, assignments, group discussions etc. Faculty are advised to prepare QPs keeping the course outcomes / program outcomes in mind. All PG project reports are subjected to compulsory plagiarism check using TURNITIN software and a similarity index of < 25% is permitted.

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?

NA

6.11 Activities and support from the Alumni Association

The Institute has a registered Alumni Association called "Wenamitaa" with its Chapters in Middle East and Bangalore. Alumni help our current students by giving them some useful talks and guidance throughout the year. This helps them in getting better placements and also in starting some entrepreneurial activities. Every year, during the graduation day, Alumni association gives medals for meritorious students of all the programs. One best project from each program of engineering is given project funding from the Alumni Association. Also best Outgoing student Award from each discipline of engineering and also an overall award winner is being instituted and given by a distinguished alumni.

6.12 Activities and support from the Parent – Teacher Association

At present we do not have a Parent-Teacher association. In the days to come, we wish to start one.

6.13 Development programmes for support staff

Every year at least one or two staff development programs are being conducted for the benefit of our nonteaching staff by involving experts from our Staff Development College at Nitte University. About 50 staff members every year get benefited from such programs.

6.14 Initiatives taken by the institution to make the campus eco-friendly

The Institute has a "Green Cell" through which some initiatives like keeping the campus green and clean have been taken up. Every year, during the monsoon, about 300 assorted saplings are planted in the campus. Water collected from rain water harvesting is used both in the college and the Hostel. Sewage Treatment Plants have been installed to recycle the used water in garden and for use in wash rooms.

Criterion – VII

7. Innovations and Best Practices

7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

Innovation –I:

Since 2009, the department of Biotechnology Engineering under the "Renewable Energy Concept" has focused its attention on research and development in Biofuels of both types, i.e. bioethanol and biodiesel. Karnataka State Biofuel Development Board (KSBDB) Bengaluru sponsored Biofuel Information and Demonstration Centre (BIDC) has been established at Nitte in the year 2011. The BIDC has a capacity of producing 50 liter of biodiesel per batch. Biodiesel was produced using non edible seeds till the year 2015. Waste cooking oil has been explored from the year 2015 onwards for the production of Biodiesel. Waste cooking oil is collected from restaurants of Mangaluru and Udupi district.

G M Vidyaniketan Public School is utilising 5% blend of biodiesel in one of the school bus. One private public transport city bus is utilizing 10% biodiesel blend in Mangaluru. Biodiesel blend has increased the mileage from 1 to 1.5 KM compared to regular diesel. This initiative has created a positive impact on environment by reducing the pollution.

Innovation-II:
Under the Department of Mechanical Engineering, a "Micromachining" research centre actively engaged in several funded research projects from external agencies. A separate lab for "Condition Monitoring and vibration analysis" provides the facility for research and project posters under these areas, were showcased in the prestigious "IMTEX" exhibition held at Bangalore and several agencies have started showing interest in collaborating with us in the related research areas.

Innovation III:
Industry-Institute collaboration by offering industry electives and Internship projects offered for placed final year students at respective industries. The project work done by the student during Internship is considered for credits to be earned for Major Project of final year. The placed students get training and work on the live project in the industries has created a good impact in strengthening the Industry Institute Interactions.

Innovation IV:
Lab oriented electives were offered and VMware academy is established. The depth of knowledge of students with respect to engineering application is enhanced with this initiative.

Innovation V:
Department of Information Science Engineering has established a Software Development and Innovation Centre (SDIC) to cater to the IT needs of the Institution and Local Administration. This has promoted development of software for academic and local administration.

Innovation VI:
Karnataka New Age Incubation Centre is the umbrella body of KBITS for nurturing and overseeing innovation and entrepreneurship in NMAM Institute of Technology It is a platform for nurturing, encouraging and developing innovation and entrepreneurial skills among students, research scholars and alumni. The center provides and facilitates a platform for a budding entrepreneur to start a business venture into viable business propositions with minimum risks. The institution has received funding of Rs 3,00,000 each for 10 business proposal/projects. The students have successfully completed the projects.

7.2 Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year

Activities of academic year 2015-16.

1. The Department of Humanities has conducted lecture Series by the top professionals from the field of public and defence services with interactive sessions. The participated students get acquainted with new career options.
2. UG and PG students were encouraged to write proposals to get funding for their research / modeling / simulation / fabrication projects from funding agencies like IE(I), VGST, KSCST etc. Four Projects were selected for funding from KSCST and one PG project is funded from VGST during the academic year.

3. MOUs have been signed with NID, Ahmadabad to involve UG students in sponsored research projects.
4. NID Ahmadabad's Design Clinic of MSME, Govt of India funded Rs. 1.025 lakhs for a UG project titled "Design and fabrication of a multiple biodiesel seed decorticator".

5. Introduced industry oriented elective 'Condition Monitoring & Condition Based Maintenance' for the 2nd Semester M.Tech (Machine Design) students in consultation with M/s MRPL, Mangalore.
6. Student chapters of two professional societies have been formed – Condition Monitoring Society of India, Vishakapatnam, and Solar Energy Society of India, New Delhi.
7. All the non placed students of MCA Dept.are given an opportunity to carry out VI SEM projects in the development units established by the IT industries in the department and they are expected to work for at least one year. They are offered stipend during the project work.

8. MCA Students are introduced to take up research projects offered by companies like HP(STSD), Redhat, Dell India, Accenture, Pinaka, Indyago, Techverve, Sunplus at development units established in the department. Students of the department are carrying out research projects in the development unit of IT industries. The projects are monitored by the personnel assigned by the respective company. An internal faculty is also assigned to work closely with the students as well as the mentors. Students communicate with their mentors through weekly calls and submit their status reports through emails.
9. Audit Courses are offered by all departments for the benefit of students in terms of additional technical knowledge and skills.
10. Faculty and Students are supported for Paper presentations in India and abroad.
11. Student internships at reputed industries are arranged during vacation period.
12. Intranet assignments and evaluation were introduced in the department of Computer Science Engineering
13. Group Discussion among faculty on subject matters is arranged in the department of E&C.
14. Training for Rural Youth has been arranged in the area of Mobile Repair and Servicing and training on Advanced Electronic Equipment for ITI students is arranged by E&C department.
15. **Placement Department Preparations for placements:**
    a) **Uday Abhyuday Team – 2015-1**6– a group activity began by an inspired grateful final year student who wished to prepare students even before start of the crack the campus.
    A meeting with all pre-final years by a smaller team of recruited students to plan training for **interested pre-final** years was held on 1st October 2015 and the head of Placements addressed 700 pre-final years instructing them on the reality of placements and urging them to use the facilities with earnestness to have a head start when placements begin. A team of recruited students provided training to interested pre-final year students on Introduction to the recruitment process, pre-requisites for placements; training on GD, interviews, Problem solving, Aptitude tests and Discussion on Technical topics

    b) **Remedial Programme for non-placed, non-IT students & Employment enhancement programmes:**
        - 9th September 2015 – Meeting with students who have difficulties in English.

- English communication classes for 30 final year MCA students was conducted by Mrs. Uma Sankaran for 5 days at our request as a remedial attempt to help them face campus interview with confidence. - 12 were selected by seven companies there after.
- in English.
- 19th September 2015 - Free Maxvalue English Language Test (MELT)- 1 hour online for 46 students.- 36 were selected
- 3rd November 2015 - English session for Tech Mahindra registered 63 students including Verbal session by Ms. Fiona D'souza of iPoint for 4.5 hrs. - 23 were selected.

c) English classes for students who need assistance in English by Prof. Shalini K. Sharma and senior students. 15 hours programme was done for 39 students. - 14 of these students were selected in subsequent campus interviews.

d) English communication classes, Crash course in Computer Fundamentals and 'C' Programming, GD sessions, Alumni talks to enhance placements, work with non-placed students, need based training programmes.

e) Other employment enhancement programmes:

- **22nd September 2015 - Crash course on Computer Fundamentals and 'C' Programming** for final year non-IT students held in two sessions of 5 hours by Faculty of CS & IS – 72 students benefitted.- 49 of the students who underwent the course were selected in interviews subsequently.
- **28th September 2015: Motivational talk by Prof. Shalini K. Sharma after Infosys** to non- selects to let go of negativity and prepare consistently after identifying areas of weakness.
- Beneficiaries – 200 students.
- **30th September 2015: Group discussion process by Ms. Shilpa Kamath of iPoint** for Wipro registered and interested non-placed students for 5 hours. Beneficiaries – 75 students.-36 were selected.
- **4th November 2015 - 'C' Language classes by Mr. Roshan Fernandes**for 2 hoursfor Tech Mahindra registered 30 students. - 19 were selected. A Quantitative Programming test was conducted for these students by UdayAbhyuday Team.

f) 3. Alumni Talk to enhance placements:

- **Address by alumnus Mr. KeshavTanthri**on his work experience in Allegion as design engineer on 11th August, 2015 for Mechanical engineering students. Over 130 students interacted with him. **Two Mechanical Engineering students got into the same organization.**

- **Mr. DilipAdiga, alumnus addressed on 'Annadana' and 'Entrepreneurship' on 7th October 2015.**

g) Professional Counselling Services:

- Student Counselling Programmes – About 150 new students every year and follow ups about four times the number.

h) Use of Peer Helpers:

- Coaching for slow learner students in the subjects like 'C' Programming, CAD, FAFL, JAVA with the assistance of peers/juniors – About 50 students every year.

i) **Mission Prerana for Change** for 1st year Physics cycle studentsto make them wholesome world class citizens.

j) **Four day' comprehensive workshop o**n 'Understanding Adolescent issues and introduction to Therapeutic Counselling for teachers in Higher Education' for Teachers and administrators in the country.

k) **Faculty Development Workshop** on Student expectations, teaching learning styles, understanding adolescent psychology.

16. Promotion and recognition of research at undergraduate level and rewarding the students for best research projects after its evaluation by external experts during EXPRO 2016
17. Faculty with the team of students involved in educating the people and youth about the harmful effects of alcohol and other intoxicants; promoting awareness among the people about educating the girl child and women empowerment, etc.
18. Continuous monitoring of irregular students and slow learners.
19. The department of Chemistry has we included environmental aspects such as corrosion protection methods, Determination hardness of water, Dissolved oxygen, Biological oxygen demand and Chemical oxygen demand for I year B.E syllabus
20. ELIXIR- a hobby project demonstration by the E&E department focuses on the idea of providing a platform for the students to transform concepts learnt in classes into working models. Alumni also participate in this program.
21. Entrepreneurship Awareness Camp Technical quiz and Social Responsibility activities are conducted
22. Leveraging Moodle for subjects and Experience based learning to leverage skill set is adopted by E&E dept.
23. Project club initiated by the department of E&C has helped the students to work on projects. Here the senior students train the juniors in designing and developing the projects/circuits. Students display their work at the end of the semester.
24. Alumni Contribution to identify the meritorious students and honour/felicitate them with medals/citations to encourage good projects

    - Encouraging students for their work and honouring them is considered to be an unique and best way of recognizing their talent
    - Sponsored the Silver Medal during Graduation Day
    - Best Projects are awarded Funding

25. Project Expro to select the best projects of the year is organized
26. Dept of MBA has introduced an intensive simulation game on Strategy called "Learning Curve Simulation" for fifty students
27. "Enparadigm" from Pune conducted a 2 day intensive Simulation game to 50 of our 4thSem students on January 29th and 30th. The sample lot of students was chosen on basis of voluntary registration.
28. AMCAT's entry level entrance examination which is conducted for study of student employability and their performance was conducted on 18th February, 2016 by "Aspiring minds". 56 students were chosen as a sample from the pool, of 179 students in the first year.
29. Indian Institute of Management, Calcutta as a part of "CarpeDiem – 2016" conducted a workshop on digital marketing and Entrepreneurship for 49 students.

30. Ms. Smita Kamath conducted a workshop to all faculty members on April 9th about integral pedagogy and sustainability
31. To improve on the Industry Institute Interaction a senior faculty member has joined as Dean – Corporate Relations who will also spearhead MDP programs.

7.3 Give two Best Practices of the institution *(please see the format in the NAAC Self-study Manuals)*

Best Practice-I
Title: Blooms Taxonomy Levels incorporated for Students Learning Evaluation

Goal : To allow Educators to evaluate learning of students systematically.

Context:

The goal of every faculty is to guide students to learn fundamental concepts and also improve thinking skills. Curriculum questionnaires must be framed, which would facilitate students to improve their thinking skills. Improving thinking skill is a difficult task and one of the ways to achieve this is to frame questionnaires using Bloom's Taxonomy. Bloom's Taxonomy helps the faculty to assess the students in a systematic approach which involves students performing successfully at each level in a systematic manner.

Practice:

The Revised Bloom's Taxonomy is adopted to frame questions for MSE and SEE. Based on the taxonomy for assessment, we have presented mapping the questions with the taxonomy table which shows the mapping of the questions in various Blooms Taxonomy Levels.(BTL). All faculties are educated at department levels to practice setting Question papers as per various BTL.

During a traditional lecture, the only one who is active is the lecturer—talking, writing on the board, showing transparencies, asking questions and often supplying the answers when there is no response from the class. The students are passive—watching and listening and taking notes (maybe), but seldom actively thinking about the material being presented.

Active learning is anything that happens in a class that engages students with the material being presented. Students are called on to work individually or in small groups for brief periods of time to answer questions, start problem solutions, fill in steps in a problem solution or derivation, brainstorm lists, troubleshoot processes, or think of questions about the material just lectured on. At the end of the allotted period, the instructor calls on several individuals or teams for their responses, then collects more responses from volunteers, and moves on when the correct answer has been obtained and it seems clear that the students understand it.

Good things happen in a class when active learning is used, even if it's only for a few minutes out of an hour-long class. Activity refocuses students who have drifted off into mental breaks and energizes the entire class. If the activity requires the students to do something they will later have to do on homework and tests (such as draw and label a flowchart or free body diagram, outline the solution of a problem, estimate the value of a process variable, do some computations or parts of derivations, or come up with a

theoretical interpretation of an experimental observation or a data set), there will be a much better chance that they will be able to do it on their own when the time comes.

Evidence of Success:

The implementation of classifying questions based upon BTLs has resulted in to positive impact on students learning outcomes. The students have clearly understood the concept and well decided to take up academics very seriously as they have to improve upon their higher order thinking skills to get good grades in examinations.

Best Practice-II

Title: Introduction of Employability Skill Development a mandatory non- credited course.

Goal: To achieve enhancement in success rate of campus placements

Context:

In the present scenario it is extremely important for any individual that he has a good communication skill in oral and written expression which matters in job placement. The eye to eye contact is the first thing in a better communication, as it helps inviting attention of other persons. Further, expressions by hand, face and eye are an important asset. They not only add more meaning to communication and it also enhances our communication skill. It is emphasized that writing skill is the other part of communication, which comes through regular practice. In addition to it, the communication skill also demands require concept mapping, which generates ideas and leads to fertility of brain and thinking. Students are required to be trained to be successful in Campus placements. In addition to the regular course projects, dissertations and extended essays the training in soft skills give a strong plus point when students perform in Job interviews.

Practice :

Employability Skills Development (ESD) is introduced for all UG students during 5th and 6th Semester and they are trained in soft skills for enhancing success rate of campus placements. The students are given training in attending online tests and practice tests are conducted online for testing the student's capabilities. The students are trained and allowed to take up practice tests. The capabilities of students has really improved over a period of time during two semesters. Placed final year students have trained the third year students under the supervision of placement department in a program called "CRACK THE CAMPUS".

The learning management provided facilities to create a course works and storage of learning objects like presentation, documents, assignment question, creating quiz and assigning users to the respective learning objects in a particular course work is all managed in MOODLE. The course Quiz was uploaded on regular basis to the Moodle. The students were allotted a deadline to attempt to the quiz. The students have attended SEE online and passing in ESD is mandatory in view of registering for campus placement.

Evidence of Success:

All the Efforts in implementing ESD as mandatory non-credited course has resulted positive impact in terms of enhancing the skill set of students, quickness in attempting the questions in placement tests. The enhancement of Success rate of campus placements is required to be witnessed in the academic year 2016-17.

7.4 Contribution to environmental awareness / protection

1. Annual planting of 300 biofuel saplings in the college campus. Promoting utilization of Biodiesel produced at BIDC by college vehicle and private buses to reduce the environemental pollution.
2. Faculty involved in swachh bharat andolan programmes
3. Energy conservation
    - Use of solar lighting systems for street, garden and some areas in the campus.
    - Natural cross ventilation and lighting systems are implemented in new buildings so that use of electricity can be minimized.
    - Lifts consuming less electricity (having lesser power loss in transmission) are fitted in new buildings.
    - Students have done a project on Force convective solar flat plate water collector with PSM storage which can store water at high temperature for very long duration.
4. Use of renewable energy
    - Efforts are made to carry out research projects related to energy conservation and use of renewable energy resources.
    - Common Laundry facility
    - Solar water heaters in hostel
    - Students learn and conduct experiments on solar water heater, solar photo voltaics and wind power plants. Several projects have been accomplished by post graduate students which is directed towards the use of renewable energy.
5. Water harvesting
    - Sewage treatment plant is in operation and the treated water is used for the gardens.
6. Check dam construction
7. Efforts for Carbon neutrality
    - Circulars, notices, student marks reports attendance reports are sent through emails.
    - Students are not allowed to use powered vehicles in the college campus and in hostels to reduce noise and air pollution inside and campus.
    - College is providing bus facilities to all the students and staff members thereby encouraging them not to use their private vehicles.
    - Biometric attendance system
8. Plantation
    - Gardens around academic blocks, hostel blocks, cafeteria and sports complex has been developed and maintained in good condition.
    - Various trees are planted and maintained to keep the campus green.
    - Treated water is used for plants.
9. Hazardous waste management
    - Institute does not generate any hazardous waste in the campus.
10. e-waste management

- Electronic goods are put to optimum use. Non-working computers, monitors and printers are discarded and scrapped on a systematic basis.

11. any other
    - Color coded dust bins are used in the campus to separate biodegradable and plant wastes.

12. Steam Cookers used in all the hostels for cooking

13. Recycled water used in wash rooms and gardens. The institution has two recycle plants with a capacity of 2 lakh litres per day.

14. Optimal use of electricity and water; Paperless course materials is practiced in JKSHIM

15. Green Classroom – Bahiranga

16. Recycled water for garden and toilets; Percolation pond

17. Herbal garden, planting saplings and maintenance

18. Students create awareness among their peers though seminars and internship activities for hazardous and e waste management.

7.5 Whether environmental audit was conducted? Yes [ ] No [✓]

7.6 Any other relevant information the institution wishes to add. (for example SWOT Analysis)

Nil

8. **Plans of institution for next year**

1. Improving enrolment for Ph.D.
2. Improving funded research projects.
3. Have more focused international collaborations.

Name _Dr. Subrahmanya Bhat K.

Signature of the Coordinator, IQAC

Name _Dr. Niranjan N Chiplunkar

Signature of the Chairperson, IQAC

***

ANNEXURE-I

Date: 15-6-2015

ACADEMIC CALENDAR for B.E. 2015 – 2016 - ODD Semester

S.No.	Event	I, III, V, VII Semester B.E.
1	**REOPENING OF ODD SEMESTER**	**July 30, 2015**
2	Registration of Courses	July 30 – August 3, 2015
3	Commencement of Classes	August 3, 2015
4	**MSE I**	September 7 - 9, 2015
5	Last day for dropping the course	September 21, 2015
6	**MSE II**	October 17 - 20, 2015
7	Last day for withdrawal	November 2, 2015
8	Additional MSE	November 5 - 7, 2015
9	Last date to collect Hall Ticket without fine	November 16, 2015
10	**Last Working Day**	**November 18, 2015**
11	**Practical Examination**	November 19 - 26, 2015
12	**Theory Examination**	November 27 - December 12, 2015
13	**Announcement of Result**	December 26, 2015
14	Last Date for applying for **Revaluation**	December 31, 2015
15	Last Date for registration of **Make up Examination**	January 1, 2016
16	DUGC Valuation & Paper Seeing	January 8, 2016
17	**Revaluation Result**	January 13, 2016
18	**Make up Examination**	January 20 - 29, 2016
19	**Announcement of Make up Result**	February 10, 2016
20	**REOPENING OF EVEN SEMESTER ***	**December 26, 2015**
21	Registration of Courses	December 26 - 30, 2015
22	Commencement of classes	December 30, 2015
23	Last Working Day of Even Semester	April 15, 2016

**** Reopening may be advanced by 10 days for Final Year students based on internship opportunities.***

Sd/- **Sd/-**

CONTROLLER OF EXAMINATIONS **PRINCIPAL**

Date: 7-12-2015

ACADEMIC CALENDAR for B.E. 2015 – 2016 - Even Semester

S.No.	Event		II, IV, VI, VIII Semester B.E.
1	**REOPENING OF EVEN SEMESTER**		**December 26, 2015**
2	Registration of courses		December 26 - 30, 2015
3	Commencement of classes		December 30, 2015
4	**MSE I**		February 4 - 6, 2016
5	Last day for dropping the course		February 16, 2016
6	**MSE II**		March 21 - 23, 2016
7	Last day for withdrawal		April 2, 2016
8	Additional MSE		April 4 - 6, 2016
9	Project Exhibition (**Final Year**)		April 7, 2016
10	**Last Working Day**		**April 15, 2016**
11	Practical Examination / Project Viva voce		On or before April 23, 2016
12	**Theory Examination**		April 25 - May 12, 2016
13	**Vacation Break**		May 13 - July 27, 2016
14	Announcement of Result		May 23, 2016
15	**Supplementary Semester (7thand 8th Sem. Lab with exam)**		May 12 - 21 , 2016
16	**Supplementary Semester**		May 24 - July 1, 2016
17	Last Date for Registration of Make up Examination / Supplementary Semester		May 25, 2016
18	Last date for applying for Revaluation		May 26, 2016
19	Commencement of Supplementary Semester Classes		May 26, 2016
20	DUGC Valuation & Paper seeing		June 3, 2016
21	Revaluation Result		June 7, 2016
22	**Make up / Supplementary Examination**	Theory	July 2 - 22, 2016
		Lab	July 21 - 25, 2016
23	**Reopening of ODD Semester (2016-2017)**		**July 28, 2016**
24	Registration of Courses		July 28 - August 1, 2016
25	Commencement of Classes		August 1, 2016

Sd/- **Sd/-**

CONTROLLER OF EXAMINATIONS **PRINCIPAL**

Date: 1-9-2015

Tentative ACADEMIC CALENDAR for PG (M.B.A. / M.C.A. / M.Tech.) - 2015 - 2016 - First Semester

S.No.	Event	I Semester PG
1.	Commencement of **ODD** Semester.	September 14, 2015
2.	Last day for registration	September 21, 2015
3.	**MSE I**	October 29 – 31, 2015
4.	Last day for dropping the course	November 9, 2015
5.	**MSE II**	December 14 – 16, 2015
6.	Last day for withdrawal	December 21, 2015
7.	Last working day	January 2, 2016
8.	**Theory Examination**	Jan.11, 2016 - Jan.22, 2016
9.	**Practical Examination**	On or before Jan. 9, 2016
10.	**REOPENING OF SECOND SEMESTER**	January 25, 2016
11.	Registration of Courses	January 25 – 28, 2016
12.	Commencement of Classes	January 28, 2016
13.	**Announcement of Result**	February 6, 2016
14.	Last Date for applying for **Challenge Valuation**	February 8, 2016
15.	DPGC Valuation	February 12, 2016
16.	**Challenge Valuation Result**	February 15, 2016
17.	Last Date for registration of **Make up Examination**	February 16, 2016
18.	**Make up Examination**	Feb. 22 – Feb. 29, 2016
19.	**Announcement of Make up Result**	March 10, 2016

Sd/- **Sd/-**

CONTROLLER OF EXAMINATIONS **PRINCIPAL**

Date: 15-6-2015

Tentative Academic CALENDAR for MBA 2015 – 2016 - ODD Semester

S.No.	Event	III Semester
1	**REOPENING OF ODD SEMESTER**	**July 6, 2015**
2	Registration of Courses	July 6 – 9, 2015
3	**MSE I**	August 10 – 13, 2015
4	Last day for dropping the course	August 24, 2015
5	**MSE II**	Sept. 30 – Oct. 3, 2015
6	Last day for withdrawal	October 13, 2015
7	Additional MSE	October 15 – 17, 2015
8	**Last Working Day**	**October 24, 2015**
9	**Theory Examination**	Oct. 28 – Nov. 9, 2015
10	**REOPENING OF EVEN SEMESTER**	November 16, 2015
11	**Make up Examination**	December 7 - 14, 2015
12	Last Working Day of Even Semester	March 5, 2016

Sd/-

CONTROLLER OF EXAMINATIONS

Sd/-

PRINCIPAL

Date: 15-6-2015

ACADEMIC CALENDAR for M.C.A. 2015 – 2016 - ODD Semester

S.No.	Event	III, V Semester M.C.A.
1	**REOPENING OF ODD SEMESTER**	**July 30, 2015**
2	Registration of Courses	July 30 – August 3, 2015
3	Commencement of Classes	August 3, 2015
4	**MSE I**	September 7 - 9, 2015
5	Last day for dropping the course	September 21, 2015
6	**MSE II**	October 17 - 20, 2015
7	Last day for withdrawal	November 2, 2015
8	Additional MSE	November 5 - 7, 2015
9	Last date to collect Hall Ticket without fine	November 16, 2015
10	**Last Working Day**	**November 18, 2015**
11	**Practical Examination**	November 19 - 26, 2015
12	**Theory Examination**	November 27 - December 12, 2015
13	**Announcement of Result**	December 26, 2015
14	Last Date for applying for **Challenge Valuation**	December 31, 2015
15	Last Date for registration of **Make up Examination**	January 1, 2016
16	DPGC Challenge Valuation	January 8, 2016
17	**Challenge Valuation Result**	January 13, 2016
18	**Make up Examination**	January 20 - 29, 2016
19	**Announcement of Make up Result**	February 10, 2016
20	**REOPENING OF EVEN SEMESTER ***	**December 26, 2015**
21	Registration of Courses	December 26 - 30, 2015
22	Commencement of classes	December 30, 2015
23	Last Working Day of Even Semester	April 15, 2016

Sd/-

CONTROLLER OF EXAMINATIONS

Sd/-

PRINCIPAL

Date: 15-6-2015

Tentative ACADEMIC CALENDAR for M.Tech. 2015 – 2016

S.No.	Event	III, IV Semester M.Tech.
1.	Commencement of III Semester	August 1, 2015
2.	Industrial Training / Mini Project	August 1 – September 25, 2015
3.	Seminar on special topic & Industrial Training	6 -10-2015 to 15-10-2015
4.	Evaluation of Project (Phase – I)	1-1-2016 to 15-1-2016
5.	Midterm Project Evaluation (Phase – II)	15-3-2016 to 31-3-2016
6.	Submission of Final Project Thesis	May 20, 2016 onwards.
7.	Last Date for Project Viva	June 10, 2016

Sd/- **Sd/-**

Controller of Examinations **PRINCIPAL**

Date: 15-11-2015

Tentative ACADEMIC CALENDAR for MBA 2015 - 2016 - EVEN Semester

S.No.	Event	II Semester	IV Semester
1.	Commencement of **EVEN** Semester	January 27, 2016	November 16, 2015
2.	Last day for registration	January 30, 2016	November 19, 2015
3.	Last day for dropping the course	March 17, 2016	December 30, 2015
4.	Last day for withdrawal	May 6, 2016	February 15, 2016
5.	Last working day	May 17, 2016	March 5, 2016
6.	**Theory Examination**	May 23 – June 3, 2016	March 11-23, 2016
7.	**Announcement of Result**	June 18, 2016	April 6, 2016
8.	Industrial Project / Project Work	June 4-18, 2016	March 28-May 21, 2016
9.	Submission of Project Report	-----	May 26, 2016
10.	Viva Voce	-----	June 1, 2016
11.	Supplementary Semester	June 20-July 14, 2016	June 2-July 6, 2016
12.	Make up / Supplementary Examination	July 15-22, 2016	July 7-14, 2016

Sd/- **Sd/-**

CONTROLLER OF EXAMINATIONS **PRINCIPAL**

Date: 7-12-2015

Tentative ACADEMIC CALENDAR for M.Tech. / MCA 2015 – 2016 - EVEN Semester

S.No.	Event		II Semester M.Tech. / MCA
1.	Commencement of **EVEN** Semester.		January 27, 2016
2.	Last day for registration		January 30, 2016
3.	**MSE I**		March 10 – 12, 2016
4.	Last day for dropping the course		March 22, 2016
5.	**MSE II**		April 21 – 23, 2016
6.	Last day for withdrawal		May 6, 2016
7.	Additional MSE		May 5 – 7, 2016
8.	Last working day		May 17, 2016
9.	**Practical Examination**		On or before May 21, 2016
10.	**Theory Examination**		May 23 – June 3, 2016
11.	**Announcement of Result**		June 15, 2016
12.	Supplementary Semester		June 16 – July 14, 2016
13.	**Make up / Supplementary Examination**	**Theory**	July 15 – 22, 2016
		Practical	On or before July 26, 2016

Sd/- **Sd/-**

CONTROLLER OF EXAMINATIONS **PRINCIPAL**

Date: 7-12-2015

ACADEMIC CALENDAR for MCA 2015 – 2016 - Even Semester

S.No.	Event		IV Semester MCA
1	**REOPENING OF EVEN SEMESTER**		**December 26, 2015**
2	Registration of courses		December 26 - 30, 2015
3	Commencement of classes		December 30, 2015
4	**MSE I**		February 4 - 6, 2016
5	Last day for dropping the course		February 16, 2016
6	**MSE II**		March 21 - 23, 2016
7	Last day for withdrawal		April 2, 2016
8	Additional MSE		April 4 - 6, 2016
9	**Last Working Day**		**April 15, 2016**
10	Practical Examination		On or before April 23, 2016
11	**Theory Examination**		April 25 - May 12, 2016
12	**Vacation Break**		May 13 - July 27, 2016
13	Announcement of Result		May 23, 2016
14	**Supplementary Semester**		May 24 - July 1, 2016
15	Last Date for Registration of Make up Examination / Supplementary Semester		May 25, 2016
16	Last date for applying for Challenge Valuation		May 26, 2016
17	Commencement of Supplementary Semester Classes		May 26, 2016
18	Challenge Valuation Result		June 7, 2016
19	**Make up / Supplementary Examination**	Theory	July 2 - 22, 2016
		Lab	July 21 - 25, 2016
20	**Reopening of ODD Semester (2016-2017)**		**July 28, 2016**
21	Registration of Courses		July 28 - August 1, 2016
22	Commencement of Classes		August 1, 2016

Sd/- **Sd/-**

CONTROLLER OF EXAMINATIONS **PRINCIPAL**

Date: 7-12-2015

ACADEMIC CALENDAR for MCA 2015 – 2016 - Even Semester

S.No.	Event	VI Semester MCA
1	REOPENING OF EVEN SEMESTER	December 26, 2015
2	Registration of courses	December 26 - 30, 2015
3	Last date for submission of Project Report	May 30, 2016
4	Project Viva Voce	June 6 - 11, 2016

Sd/- **Sd/-**

CONTROLLER OF EXAMINATIONS **PRINCIPAL**

Annexure - II

NMAM INSTITUTE OF TECHNOLOGY
(An Autonomous Institution affiliated to VTU, Belgaum)
(NBA Accredited, ISO 9001:2008 Certified)
Nitte – 574110, Karkala, Udupi District, Karnataka, India

Dr.Srinath Shetty K.
Professor and Head

☎: 08258 - 281039 – 281263
Extn: 260 Fax: 08258 – 281265

DEPARTMENT OF CIVIL ENGINEERING

Minutes of the BOARD OF STUDIES (BOS) UG MEETING held on 06.06.2015

The schemes and detailed syllabus of I to VIII Semester B.E. Civil Engineering have been discussed in detail and scrutinized. The corrections, additions and deletions to be adopted were noted and recommended for approval of Academic Council.

Minutes:

Dr Srinath Shetty K Prof & Head of Civil and Chairman of BOS(UG) welcomed all External and Internal members and requested all members to actively participate in the deliberations.

The following points were discussed for the syllabus of 7th& 8thsemester :

- Suggestion to Incorporate Design of Steel Structures (CV703) in Sixth Semester (Reason: Students will be more concentrating on their project and placements, so less importance will be given for this core subject as suggested by Er Anil Hegde).
- Suggestion to reframe the Design of Bridges (CV721) syllabus and to add Pier and abutment concepts. (Members felt the syllabus needs little bit of rearranging)
- Advised to consider Advanced Concrete Technology (CV713) as a core subject (Reason: concrete technology is so far not offered in-detail including mix-design concepts in any of the lower semester subject as suggested by Dr Mohandas Chadaga)
- Dr Manoj Kumar V Chitawadagi suggested to add mix design of concrete as an assignment in Concrete & Highway Lab (CV705).

- Suggested to add bar bending schedule and computation of quantity steel in RCC structural Elements, in Quantity Surveying & Estimation (CV702).
- Advised to give importance for PWD & CPWD Schedule of Rates in Quantity Surveying & Estimation (CV702).
- Suggested to add one more elective subject ***Advanced Design of RCC Structures*** in 7th Semester.

The following points were discussed for the syllabus of 5th& 6th semester:

- Advised to add ***counterfort retaining wall*** and introduction to *trapezoidal combined footing* in ***Design andDrawing of RCC Structures (CV601).***
- Suggested to give more emphasis for bar bending schedule in ***Design andDrawing of RCC Structures (CV601).***
- Advised to rearrange the Environmental Engineering I & II subjects to 4th and 5th semester respectively from 5th and 6th semester so as to accommodate Design of Steel Structures in 6th Semester.
- Advised to add concept of RC shear wall in Design of RCC Structural Elements (CV502).

The following points were discussed for 3rd& 4th semester:

- Suggested to merge Material of Construction and Building Construction as one subject.
- Advised to add Mix design, Non destructive testing of hardened concrete and Ready Mix Concrete concepts in place of lime and timber.
- Advised to rename Strength of Materials as Mechanics of Solids.

  Audit Courses :
- In addition to two Audit Course offered this year – ***Land Surveying using Total Station*** and *Practical Approach to Design & Detailing of RCC structural members* two more courses on ***Interior Decoration*** and ***Land Scaping*** are being proposed.

Additional inputs:

Dr Manoj Chitawadagi

- Advised to add self-study topics (students should select a topic mostly 5 in a group and practically they have to conduct casting & testing of materials and they have to present the results. Weightage will be 10 marks.

- Advised to add a detailing subject.(he told that he will mail the syllabus.)

HOD proposed the vote thanks to all the BOS members.

Minutes of the BOARD OF STUDIES (BOS) PG MEETING held on 06.06.2015

The schemes and detailed syllabus of I to IV Semester M.Tech Construction Technology have been discussed in detail and scrutinized. The corrections, additions and deletions to be adopted were noted and recommended for approval of Academic Council.

The following points were discussed for 1st& 2nd semester

- Suggestion to Incorporate modern construction materials like V-panels, CFRP, GFRP, Asbestos-sheets in course 15CCT 103.
- Suggestion to include advanced planning project techniques like Primavera with the inputs and guidelines of industrial professionals.
- Advised to include Management Courses in Electives proportionate to structural subjects.
- Advised to consolidate subjects by including practical guideline manuals.

HOD proposed the vote thanks to all the BOS members.

DEPARTMENT OF MECHANICAL ENGINEERING

Minutes of Meeting (MOM) of the Board of Studies (BOS) in Mechanical Engg

The BOS meeting of the Dept. of Mechanical Engg. was held on 06-06-2015 from 9.30 A.M to 12.30 P.M in Phalguni Seminar Hall. The minutes of the meeting are as follows –

UG – B.E (Mechanical Engg.)

2012 Scheme

1. 12ME702 - Mechanical Vibrations – Some topics have been removed from Unit 4 and Unit 5 and has been included as a self study component. Machine condition monitoring demo experiment will be included in the Dynamics lab ME707.

2. 12ME704 – Mechatronics – Unit 2 & 3 to be retained as in the previous syllabus. In Unit 5, certain fundamental topics have been removed, as they have been covered elsewhere. In Unit 5, apart from 8085A architecture, introduce some recent architecture.

3. 12ME801 – Heat Transfer - Introduction to Mass transfer has been included in Unit 5. Topics have been rearranged by referring the syllabi of premier technical Institutions like IITs. The scheme of L-T-P 3-2-0 hrs has been changed to L-T-P as 4-0-0

4. 12ME824 – Energy Conservation and Management – The title of the subject has been changed from “Energy Management” to “Energy Conservation & Management” to give importance to energy conservation. Energy conservation has been included in Unit 1.

5. 12ME8X09 – Operations Management & Entrepreneurship – The title of the subject has been changed from “Management & Entrepreneurship” to “Operations Management & Entrepreneurship”. Basic topics of management like planning, controlling, staffing and executing have been removed from the syllabus, since it has already been covered by the respective departments in different subjects. The topics on Operations management and Quality management have been included. In the proposed syllabus, in Unit III, Control charts for attributes have to be removed and should be replaced with Concept of Six sigma (in detail) and Introduction to Reliability.

2013 Scheme

1. As discussed in the HOD’s meeting and the circular of Dean (Academics) dated 26-05-2015, from this academic year, a non credit, but compulsory subject titled “Employability Skill Development” has been introduced for all the disciplines of engineering. This course is offered 1 hour per week, with only CIE out of 50 marks and no SEE. The grade awarded will be PP or NP.
2. The elective offered under ME62X group, Advanced Strength of Materials(ME627) in sixth semester is shifted to fifth semester as an elective with the following code - 13ME515. This is being done to have continuity with the core subject offered in IIIrd semester namely Mechanics of materials and Design of Machine Elements – I & II offered in fifth and sixth semester.

2014 Scheme

1. 14ME302 – Material Science & Metallurgy – Unit 4 – Replace the following topics: Fracture: types, stages in cup & cone fracture, Griffith’s criterion. Notch effect, ductile-brittle transition. Fatigue: fatigue tests, mechanism, S-N curves, Factors affecting fatigue life, and protection methods. Creep: Various stages of creep, Mechanisms of creep, effect of temperature, creep fracture, stress relaxation,Creep resistant materials with **Basic Introduction to Fracture, fatigue and creep**

In unit 5 – remove topics related to smart materials, SMA and powder metallurgy and add Applications **of smart materials**

Powder metallurgy to be shifted to Manufacturing Process I (13ME304) in Unit III.

2. 14ME403 - Applied Thermodynamics –

- Unit 1 modified, some topics removed – changes made - Numerical problems in simple Rankine cycle. Significance of mollier chart, Reheat Rankine cycle, regenerative Rankine cycles. (description only)
- Unit III – topic flow through nozzles removed
- Unit V – Morse test added.

3. 14ME405 – Fluid Mechanics - a topic 'curved surfaces' has been removed from Unit 3.

4. 14ME406 – Engineering Economics - The financial management related topics which were earlier in Unit 1 has been shifted to Unit 5. In Unit 4, two more methods of depreciation has been included.

5. As per the directions of Dean (Academics) through a circular dated 15-04-2015, the number of credits for Project work in the final year (Part I and II) have been made 10 (1+9) uniform for all the disciplines of engineering. Accordingly the modifications have been done .Earlier number of credits for Project work was 3+6. The extra credit required has been taken from 14ME604 (CAD/CAM), reducing its number of credits from 4 to 3.

2015 Scheme

15ME104 – Elements of Mechanical Engineering - syllabus has been modified and approved.

The above modifications were duly approved by all the BOS members.

Minutes of Meeting (MOM) of the Board of Studies (BOS) in Mechanical Engg

The BOS meeting of M.Tech(Machine Design) and M.Tech(Energy Systems Engg.) of the Dept. of Mechanical Engg. was held on 13-06-2015 from 9.30 A.M to 12.30 P.M in Phalguni Seminar Hall. The minutes of the meeting are as follows –

PG (M.Tech in Machine Design)

1. 15MMD103 -Theory of Elasticity

A topic on Plasticity is included in Unit V and subject title is renamed as Theory of Elasticity and Plasticity. Some small topics are deleted in the other units to get the flow of the subject.

2.15MMD202- Advanced Machine Design

A topic on Notches and their effects is included in Unit III.

PG (M.Tech in Energy Systems Engineering)

1. 15ESE103- Combustion Engineering.

Suggested for addition of one new text book

2. 15ESE 203- Energy System Modeling and Analysis

Minor topics repeated in the subject are removed and detailed discussion in the existing topics is included.

3. 15ESE 223 Pollution control from thermal power stations

The more detailed syllabus has been added.

4. 15ESE 121- Biomass Energy of IC Engines

Title of the subject changed to **Biomass energy for IC Engine.**

5. 15ESE 123 Advanced IC Engines

UNIT-V Changed and modified and a properties of fuel is removed in the same unit and one text book is added in the subject.

6. 15ESE 216- Design of Solar PV Systems.

Mr.Chidambar CharyA V Industrial representative suggested a new elective, design of solar PV System for second Semester. He set the syllabus and gave reference books.

7. **15ESE 104 Alternative Fuel/Energy lab-** Four new experiments were added

The above modifications were duly approved by all the BOS members.

Department of Electrical & Electronics Engineering

Board of Studies (BOS) Meeting –UG

Following changes are proposed

1. In the 12-16 Scheme the total credits for the Project Work is made 10 as per the instructions from Dean (Academics) with 1 credit for 12EE706-Major Project phase I and 9 credits for 12EE803-Major Project.
2. In 12EE705 – PSS Laboratory "Formation of Z bus using building algorithm" experiment is added.
3. All electives are rearranged for 5 units as per the instructions from Dean (Academics)
4. The 12EE724 - VLSI Circuits and Design is modified as per the current industrial requirements.

5. The Syllabus of 12EE824- Embedded Systems is revised and is made processor independent. It is reframed based on two text books by Frank Wahid and David Simon.
6. In 2013-17 scheme following additional electives are proposed.

V	Power Semiconductor Devices
	Operating System
	Advanced Instrumentation System
VI	Power Electronics System Design using ICs
	OOPS using C++
VII	Robotics and Control
	Applications of MEMS Technology
	Power Quality Concerns And Mitigation
	Data Structures
VIII	Advanced Digital Signal Processing
	Discrete Control Systems
	Smart Electric Grid
	Modern Rectifiers and Resonant Converters
	Human Resource Management

7. In 13EE502 Dr. Narayana S Iyer" Digital Signal Processing" Jaico Publications 1st Edition, 2006 is added as reference.
8. ElectricPower Generation and Transmission Distribution is combined - 13EE505 Generation, Transmission and Distribution – as per the instructions of the last BOS.
9. In 13EE514-FUZZY LOGIC CONTROL
    a) In Unit – I "Chances Vs ambiguity, random process" topics are removed
    b) In Unit – III topics "Aircraft Landing control problem, washing machines, traffic regulations, lift control, Fuzzy Engineering" are added and "Nonlinear simulation using Fuzzy systems, Fuzzy associative memory" are removed.
    c) In Unit – IV following topics are added "Fuzzy knowledge based controllers (FKBC): Basic concept structure of FKBC, choice of membership functions, scaling factors, rules, FKBC as a linear transient element, PID like FKBC, sliding mode FKBC, Sugeno FKBC."
    d) In Unit-V "control of blood pressure during anaesthesia, customer adaptive fuzzy control of home heating system, adaptive fuzzy systems" are replaced by "ADAPTIVE FUZZY CONTROL: Process performance monitoring, adaption

mechanisms, membership functions, tuning using gradient descent and performance criteria. Set organizing controller model based controller".

10. In the 6th semester a new core subject 13EE603-Electrical Machine Design and CAD is introduced with 4 credits (4-0-0).
11. In the 6th semester a new lab13EE607-Electrical CAD lab is introduced with 1 credit (0-0-2)
12. The circuit simulation and Linear System Simulation labs are combined as 13EE605-Circuit & Linear System Simulation Laboratory. It will be conducted for 4 Hours
13. For the 2014-18 batch the scheme of 2013-17 is retained.
14. In 14EE303 -D C and Synchronous Machines
    a) In unit –I Commutation topic is added.
15. In 14EE304- Analog Electronic Circuits
    a) In Unit –I "Relationship between h-parameter model of CE, CC and CB configuration" is added as it helps to understand emitter follower and other configurations.
    b) In Unit- V "Simple design methods for Oscillators" is added.
16. It is suggested to include MOSFET based circuits in Analog Electronic Circuits in place of BJT based circuits for the 15-19 batch.
17. In 14EE403 -Microcontrollers
    a) In unit – V topic "**Case Studies of applications of MSP430** - Data acquisition system, Wired Sensor network, Wireless sensor network with Chipcon RF interfaces" is removed.
18. In 14EE406 – Microcontroller Lab, Interfacing is performed only with 8051 and hence **MSP430 interfacing** is removed.
19. In 15EE105 (Basic Electrical Engineering) minor modifications in unit II and III are proposed.

The following modifications are proposed in the M.Tech (Power Electronics) scheme and syllabus

1. It is decided to reduce the credits allotted for the electives from 4 to 3 and accordingly total number of hours from 52 to 39. Hence all the elective contents is reduced / modified.
2. To balance the credits in I and II semester "**15EPE105 - HVDC Power Transmission**" is shifted to I semester from II Semester.
3. The 15EPE206-**Seminar** on special topics will be conducted only II semester. No seminar in I Semester as compared to earlier scheme.
4. In II Semester **15EPE203-PWM Converters and Applications** is made a core subject which earlier was an elective.
5. The elective Subject **15EPE111-Advanced Control Systems** is updated reducing the number of hour to 39.
6. The elective Subject **15EPE112-Embedded System Design**updated based on the two text books by Frank Vahid and David E Simon as it is more in general and not restricted to a particular processor.

7. The elective Subject **15EPE113-Soft Computing**updated and the applications of soft computing to electrical engineering are incorporated.
8. In subject **15EPE204-FACTS CONTROLLER**
    a. In Unit – I the the syllabus is modified to introduce FACTS in a better way
    b. The topic with heading "AC Transmission Line and Reactive Power Compensation" is completely removed from first unit as it is not relevant to FACTS controllers and deals only with reactive power compensation. It will be important for power system engineers not for power electronics
    c. "Static Phase Shifting Transformer" is shifted to Unit- I
    d. " Shunt Compensation" is added to Unit –II
    e. In Unit – IV topic "harmonic transfer and resonance in VSC" is removed
    f. In unit – V "control of SSSC using Type-2 and Type-1 VSC", "implementation of Two converter UPFC", "conventional transmission control capabilities of UPFC" and "Control scheme of two converter IPFC" topics are added.
9. New elective **15EPE213- SMART GRID** is introduced**.** The contents are taken from "Smart Grid - Technology And Applications", Janaka Ekanayake, Kithsiri Liyanage, John Wiley & Sons, Ltd., Publication, 2012
10. Another new elective **15EPE222- POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS** is added in the second semester.
11. Core subjects 15EPE103- Modeling and Simulation of power Semiconductor devices, 15EPE104- Solid State Converters, 15EPE105- Switched Mode Power Converters, are modified as 3-1-0 and the syllabus is retained as it is and extra position can be given as self study
12. Lab courses are modified as 0-1-2 for 2 credits.
13. The internship period is rescheduled to 12/8 hours and the credit is increased to 8 and seminar on special topic credit is decreased to 2 credits.
14. In15EPE102- Power Semiconductor devices units are modified as:
    a. UNIT-I, II, III reframed as Unit I for switching characteristics of Power Diodes, BJTs and Thyristors including modeling and simulation of power diodes, BJTs and Thyristors.
    b. Unit II consists of TRIAC and GTO
    c. Unit III is MOSFETs including drivers and miller region
    d. Unit IV is IGBTs including drivers and active clamping.
    e. Unit V includes new power semiconductors devices including GaN and SiC
15. In 15EPE106 Power Electronics Lab Expt 9 and 10 is replaced by experiment on Modeling and Simulation of Power Semiconductor devices and SMPS converters
16. In 15EPE206- Power Electronics System design Lab experiments are modified as experiment 1: Effect of op-amp non idealities and experiment 4: Buck Controller Design including inductor design.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

BOARD OF STUDIES (BOS) – UG – Minutes of the Meeting

The BOS committee met on 06-06-2015 at 9.30and following members were present

1. **Dr. K. Rajesh Shetty,** Professor & Head **– Chairman**
2. **Dr. M. K. Parasuram,** Director **– Internal Member**
3. **Prof. ChandrakanthNaik,** Asso. Professor **- Internal Member**
4. **Mr. Mahaveera K.,** Asst. Professor Gd. III **- Internal Member**
5. **Mrs. SunithaLasrado,** Asst. Professor Gd. III **- Internal Member**
6. **Mr. Satheesh Rao,** Asst. Professor Gd. III **- Internal Member**
7. **Dr. SomashekarBhat,** Professor & Head, E&C Dept., MIT, Manipal- **External Member**
8. **Dr. G. S. Jayadeva,** Professor & Head, E&C Dept., NCE, Bangalore – **VTU Nominee**
9. **Mr. BhaskarShenoy,** Executive Director, I-Logicon Control Automation Pvt. Ltd., **- Industrial Invitee**
10. **Dr. Savitha H. M.,** Professor & Head, E&C Dept., SJEC Mangalore **- Alumni**

Chairman welcomed the members and presented the proposals for modifications in the syllabus / structure of UG curriculum. After detailed discussions / deliberations, the following decisions were taken.

1) The list of electives has to be rearranged and grouped into baskets of specializations so that the student will choose the stream of electives as per the specialization continuously. The student qualifying in that particular stream may be provided with additional certificates.
   This could be made effective to students coming to V semester during 2016-17.

2) Solid State Device physics to be added as an elective to help in device modeling.
   This may be considered after discussions in Academic Council Meeting.

3) Self Study(SS) component during III & IV semesters to be changed to tutorials and SS to be included in V & VI semester. Suggested subjects for SS are System Design using Microprocessor / Microcontroller(12EC504), Information Theory & Coding(12EC601),

VLSI Circuits(12EC603). Since fundamental subjects are taught in III and IV semester, it was decided not to have SS in II year.

4) In Signals &Systems(14EC305), students should be introduced to MATLAB as it helps in improving the level of understanding.

5) More content on FET to be introduced in Analog Electronic Circuits (14EC302).

6) In Analog Electronic Circuits Lab(14EC306), an interface with laptop from Digitronics may help in better understanding.

7) In Digital Electronics Lab(14EC307), during familiarization, IC family characteristics such as fan-in, fan–out etc. should be emphasized using experimental demonstrations/simulations. Exposure in referring to data manualsalso needed.

8) In the course Digital System Design using VHDL (14EC406),VHDL is to be replaced by Verilog.

Sl. No. 3, 4, 5, 6, 7, 8 – to be effective from 2015-16.

9) In the elective list of 12EC62X (Elective III), a Communication subject may be introduced.

This could be made effective to students coming to V semester during 2016-17.

10) For Antenna and Wave Propagation(13EC604) following books can be included for additional reference
    a) F. E. Terman, “Radio Engineering”, Tata McGraw Hill, 1995.
    b) K. D. Prasad, “Antenna & Wave Propagation”, SathyaPrakashan, 2009.

To be effective during 2015-16.

11) A new elective course on “Automotive Electronics” to be introduced for VII semester under Elective-IV or Elective V. The syllabus was reviewed by the committee and it was suggested that a component on **Sensors and Networks** should be introduced. If not feasible, alternatively this topic on **Sensors and Networks** may be introduced in the course Electronic Measurements and Transducers (14EC403).
12) In VII and VIII semester it was suggested to introduce Java and Low Power VLSI as electives.

Sl. No. 11, 12 - This could be effective for students coming to VII semester in the year 2016-17.

13) With reference to circular NMAMIT/VP &Dean(Academic)/2015/68 dtd:15.04.2015, the project work should be for both VII and VIII semester with a total credit of 10 (1 credit during VII semester and 9 credits during VIII semester). Accordingly the following modifications in credit distributions are to be made.
    a) Introducing Project-I(EC706) (0+0+3) for 3 hours with 1 credit to be evaluated for CIE of 50 marks.
    b) Seminar (EC705) to be evaluated for 50 marks and the credit is redistributed as 1.
    c) Project – II EC803(0+0+9) will be retained with 9 credits with the evaluation of 50 marks for CIE and 50 marks for SEE.

14) Different types of signals (ECG, EEG, EMG etc.) to be introduced in Unit I of VIII semester elective course, Biomedical Signal Processing (12EC822).
Sl. No. 13, 14 - This could be made effective for the current(2015-16) VIII semester batch.

The above decisions as well as the modifications proposed by the department as presented in the BOS proposal document has been approved.

PG (Digital Electronics & Communication, VLSI Design & Embedded Systems)

Chairman welcomed the members and presented the proposals for modifications in the syllabus / structure of PG curriculum. After detailed discussions / deliberations, the following decisions were taken.

1. The proposed changes submitted to BOS-PG panel as presented in the BOS proposal document for the course Application Lab-I (15DEC104) were approved.
2. In Unit-IV of Advanced Signal Processing (15DEC102), following topic may also be included in the proposed syllabus
    a. Parametric spectral estimation (Qualitative only)
3. In Unit-V of Advanced Signal Processing (15DEC102), following topic may be included in the proposed syllabus
    a. Example for application of Homomorphic Signal Processing –(Speech and Communication Signal processing) **in place of** Application of Homomorphic Signal Processing in Speech Processing
4. MSE marks pattern may be altered and task may be given more weightage. Task may include a mini project which should include report on the efforts, survey carried out in the direction of deciding on the mini project topic.
5. The possibility of including experiments/mini projects in elective subjects so as to make them more employable in the specific fields may be considered.
6. Open electives may also be considered.
7. For both the PG programmes, the flexibility in deciding the experiments in the Application Lab was appreciated. This lab may be evaluated in 2 parts i.e. 50% of weightage for regular experiments and 50% of weightage for mini project.
8. The possibility of shifting 'Seminar on Special Topics' for both the PG programs, from IIIrd semester to IInd semester may be considered so that students can concentrate on their major projects.
9. Mini projects may be considered in Seminar on Special Topics (15DEC302).

The above decisions as well as the modifications proposed by the department as presented in the BOS proposal document has been approved.

Department of Computer Science and Engineering

Board of Studies - UG

Minutes of Meeting

Use of Open source software and MySQL is approved.

Semester-wise syllabus revisions approved are given below.

SemI –Accepted to remove Parallel programming concepts in CCP lab 15CS116

Sem II – OSS and PHP subjects prescribed by IBM are not going to be offered.

Sem III

- Elective I (IBM) is removed.
- Web programming through PHP is removed; Basics of Web programming 14CS304 introduced
- Theory and Practice of Data structures 14CS305 (Credits – 5) and OOP 14CS306(Credits -4) are having labs (LTP). Data structures are implemented using C.
- Logic design is having separate lab with distinct code 14CS307
- In DMS (14CS303) applications in computer science are to be emphasized in the class

Sem IV

- Elective II – IBM subjects are removed.
- It is recommended to includeparallel programming exercises in DAA Lab (14CS402)
- Minor modifications in Data Communications 14CS405

Sem V (IBM Scheme)

- Two IBM subjects are included in elective list.
    - 13CS516 Cloud Computing architecture
    - 13CS517 Data mining and Predictive modeling; Tutorials are added in IBM Elective- two hours.
- Introduced new subject Employability Skill Development- for V semester 13IL001 with CIE 50 Marks SEE 0 and Credit 0 (one hour per week, handled by department faculty)

Sem VI (IBM Scheme)

- IBM Electives are added - two in Group A and Two in Group B.
- Subject Distributed Operating Systems (DOS) 13CS604 is removed
- Introduced elective Distributed Systems 13CS613
- Introduced a core subject- Software Testing and Automation with code 13CS604

- Introduced elective – Big Data 13CS616
- Introduced elective - Information and Storage Management 13CS619
- Introduced new subject Employability Skill Development- for VI semester 13IL002 with CIE 50 Marks, SEE 0 and Credit 0 (one hour per week, handled by department faculty)
- Minor changes in the subject Java and Internet Technologies 13CS603 – PHP is removed, Java servelets and Java server pages topics are added in Unit-5.

Sem VII

- New Electives - 12CS716 Multimedia Processing and 12CS717 Entrepreneurship development - are introduced. Topics related to software cost estimation are advised to be included in 12CS717.

Sem VIII

- Engineering Management 12HU801 syllabus is modified to give more depth.
- Essentials of IT (open elective) 12CS8X15 – Framework 4.0 is introduced.
- Minor modifications in the subject –Advanced Compilation Techniques 12CS825
- Minor modification in Adhoc Wireless networks 12CS814
- Removal of Client server and Agent Technology 12CS811- elective.

Board of Studies - PG

Minutes of Meeting

- Use of Open source software and MySQL is approved wherever applicable.
- Modified title Advanced Computer Architecture and Parallel Programming with new code 15CSE101 instead of Advanced Computer Architecture 14CSE101. Contents of the 4^{th} and 5^{th} units are rearranged. Storage system part is removed from 3^{rd} unit. More on arithmetic operation is removed from 1^{st} unit.
- It is suggested to remove Elective Network management 14CSE221 and bring in subject-Managing Big data with code 15CSE221
- Recommended to rename DSP and Image processing (14CSE111) as Digital image processing by removing the DSP portions, with new code 15CSE111
- VTU syllabus is followed for the proposed new course M. Tech in Software Engineering.

Department of Information Science and Engineering

Minutes of the Board of Studies (UG & PG) Meeting held on 06.06.2015 Special Invitees:

1. Dr.Niranjan N Chiplunkar, Principal, NMAMIT
2. Dr. Ramesh Mithyanthaya, Vice Principal, NMAMIT **Internal BoS Members:**

1. Dr.Balasubramani R, Professor & HOD / Chairman

2. Dr.Udaya Kumar Shenoy, Professor
3. Mr.KarthikPai B H, Associate Professor
4. Mrs.Ashwini, Associate Professor
5. Mr.VasudevaPai, Asst. Professor
6. Mr.Pranesh, Asst. Professor **External BoS Members:**

1. Dr. M. Sathish Kumar, Professor, Dept. of ECE, MIT, Manipal
2. Dr.Annappa, Associate Professor & Head, Dept. of CSE, NITK, Surathkal
3. Mr.VipinNittoor, Lead, Education & Training, Infosys, Mangalore **Members Absent:**

1. Dr.Aswatha Kumar, Principal, Sapthagiri Engineering College, Bangalore
2. Mr. Praveen Udupa, Technical Director, A1 Logics, Mangalore **Minutes of the Meeting:**

    1. The department has decided to separate lab from theory and allot separate code for the labs. This comes into effect from AY 2015-16 for the 3rd and 4thsem students. Subsequently for the higher semesters in coming years. The BoS has approved the proposed curriculum for 2015-18.
    2. **III Semester**
        a. **IS 302** – Logic Design and Electronic Circuits has been replaced with **Digital Design**.
        b. **IS 307 – Digital Design Lab, IS 308 – Data Structures Lab, IS 309 – Object Oriented Programming Lab** have been introduced.
    3. **IV Semester**
        a. **IS 403** – Theory of Computations has been renamed as **Finite Automata and Formal Languages.**
        b. **IS 405** – Advanced Data Structures is replaced by **Software Engineering.**
        c. **IS 408 – Analysis and Design of Algorithms Lab and IS 409 – Unix and Shell Programming Lab** have been introduced.

Infosys Elective & Open Electives

It has been decided to offer **IS814 – Big Data and Analytics** as Infosys Elective and **"IS8X 26 - Data Structures"** and **"IS8X 27 - Operating Systems"** as Open Electives to 8th Semester students.

M.Tech. (CNE)

The BoS has approved the PG Syllabus as it is and expressed that the syllabus is very standard and reflects current areas of Networking.

Vision, Mission, PEOs and POs

The Vision, Mission statements and PEOs and POs of UG in Information Science and Engineering programme was reviewed by BoS members. They opined that no changes are required. However, they suggested to increase the attainment level for AY 2015-16.

DEPARTMENT OF BIOTECHNOLOGY ENGINEERING

Minutes of 8th Board of Studies Meeting

(B.E. Biotechnology Programme)

June 6th, 2015

Meeting of Board of Studies in Biotechnology Engineering was held on 6th June 2015 at 9.15 A.M. in the Dept. of Biotechnology Engineering to discuss and finalize scheme & syllabus of B.E. Biotechnology for academic year 2015-16.

8.0.0 Chairman of the B.O.S. Dr. C. Vaman Rao welcomed all the members and briefed on the modifications that have been incorporated in the previous curriculum for **B.E. Biotechnology programme**. He further added that these modifications were based on the feedback of stakeholders (students, faculty, alumni and industry).

8.0.1 As per the instructions of Academic Council, course code of all courses was revised as per norms. Second year courses numbered as 14BTXXX, 3rd year courses numbered as 13BTYYY, and 4th year courses numbered as 12BTZZZ for the academic year 2015-16.

8.0.2 The scheme and syllabus for B.E. Biotechnology that was approved during 7th B.O.S meeting held on 31st May 2014 was revised. The incorporations/deletions are mentioned in the following sections.

8.1 Major Changes incorporated

8.1.1 As per the decision of 7th BOS meeting (Agenda 7.1.1), practical course was mutually exchanged between 6th and 7th semester in order to orient theory course with its practical course. BT607 Analytical Techniques and Molecular Biology course is transferred to 7th semester and course code is renamed as 12BT705. In exchange, BT705 Downstream Processing Lab is transferred as it is to 6th semester and course code is renamed as 12BT607.

8.1.2 The total credits of first year have been increased from 47 to 50 with effect from academic year 2013-14. In order to account for total 200 credits. 3 credits have to be reduced from 3rdsem to 8thsem for 2013 batch onwards (Course code 13BT series). Hence 1 credit each from 13BT501 Reaction Engineering, 13BT601 Bioprocess Dynamics & Control (A/c year 2015-16), 13BT702 Bioethics, Biosafety & IPR (A/c year 2016-17) is reduced.

8.1.3 In 6th semester, A core course 12BT604Clinical Studies and Data Management is moved to Elective group 3 with course code 13BT624, An elective course 12BT624 Biomedical Instrumentation is moved to Elective group 2 (13BT615). The total

credit of 6th sem is reduced to 23 from 26. This 3 credits are shifted to 7th semester. This credit needs to be discussed in the next BOS meeting.

8.1.4 A 3 credit course 14BT305 Bioprocess Calculations is considered as fundamental course to all engineering courses in Biotechnology. The committee was of the opinion that this course should be given more emphasis in credit weightage. Hence 14BT305 Bioprocess Calculations credits were changed to 4 (L:T:P:S = 3:2:0:0) and credits of 14BT403 Thermodynamics were changed to 3 from 4 (2:2:0:0).

8.1.5 Anon credit mandatory learning course on Employability Skill Development is introduced in 5th semester (13IL001) and 6th Semester (13IL002) from this academic year for all streams of engineering. The contact hour is 1 hour per week. The syllabus will be framed by I Point Consultancy.

8.1.6 Course outcomes for all courses have been redesigned.

8.2 Corrections done and incorporated in the syllabus content of B.E. Biotechnology programme, is mentioned below.

8.2.1. 14BT302 Unit Operations

In unit 4, topics on types of mixing and agitator design are deleted and topics on centrifugation is included. In unit 5, filtration equipments were restricted to plate & frame, and leaf filter.

8.2.2. 14BT303 Biochemistry

Topics of unit 1 & 2 are reshuffled, and they are renamed as Biomolecule I & Biomolecule II respectively. Omega oxidation in unit 3, alanine & glutamine cycle in unit 4 and Biochemistry of blood, Lymph, Cerebrospinal fluid in unit 5 are deleted. Automation in clinical biochemistry and liquid biopsy were added in unit 5.

8.2.3. 14BT303 Microbiology

Topics on structure and reproduction, chemical methods of sterilization in unit 1 are elaborated. In unit 2, microbial tests, methods of isolation, maintenance and preservation are included and microbial growth kinetics is removed. In unit 3, host microbe interaction is elaborated and topics on H1N1, Ebola, Candidiacies, Dermatomycoses are included. In unit 4, topics are restructured. In unit 5, lactic acid, vinegar, citric acid, amino acids production, Role of suspended and attached microbes in waste water treatment, microbial films, microbial surfactants and topic on biomining are added. 2 Text books are included to the list.

8.2.4. 14BT305 Bioprocess Calculations

Topics in all units are elaborated and made specific. Topics on counter& co current extraction are removed. In unit 5, topics on drawing of flow sheets and self study component are deleted. Teaching hours is increased from 39 to 39lecture hours + 26 hours of tutorial. More emphasis should be given to

solving problems.

8.2.5. 14BT402 Heat & Mass Transfer

From unit 1, topics on LMTD, NTU is moved to unit 2. Radiation from human system in unit 1 is deleted. Some topics in unit 3 are restructured. Leaching topic in unit 4 and rotary dryer in unit 5 are deleted. The contact hours are increased from 4 hrs/week to 5 hrs/week, where 2 hours are to be used for solving numericals in tutorial class. 2 books are added to the reference list.

8.2.6. 14BT403 Thermodynamics

LTPS is changed from 4:0:0:0 to 2:2:0:0 and credits are reduced to 3 from 4. Contact hours and contents are readjusted accordingly. Some topics in unit 1, 2, and 5 are restructured. In unit 4, non-ideal VLE, consistency test and in unit 5, effect of pressure on K is deleted.

8.2.7. 14BT404 Structural Biology

In unit 3, Clinical relevance to membrane transporters topic was added.

8.2.8. 14BT407 Heat & Mass Transfer lab

Single & Multi stage leaching is removed from practical list.

8.2.9. 14BT408 Microbiology lab

Experiments on serial dilution, pour plate, spread plate and streak plate, CFU merged in to 1 experiment. Experiments on Preservation Techniques: Cryopreservation, glycerol, soil stock, Antimicrobial activity (MIC) were added. Endospore staining, motility test grouped under Stains and staining techniques experiment.

8.2.10. 13BT501 Reaction Engineering

In unit 5, Bioreactor topic is deleted. Topics of 4 units are completely restructured in to 5 units giving more emphasis on the fundamental aspects and in depth understanding of concepts. Credit of this course is reduced to 3, with contact hours of 2 lectures and 2 tutorial hours per week.

8.2.11. 13BT502 Enzyme Technology

Some topics in unit 1 & 2 are restructured and exchanged. Some topics from unit 3 are shifted to unit 2 and this unit is renamed as screening for enzymes and extraction. Enzyme deactivation kinetics was added to unit 2. Topics on enzyme screening and extraction are added in unit 3.

8.2.12. 13BT503 Bioinformatics & Application

Title of 5th unit renamed as structure predictions & application.

8.2.13. 13BT505 Analytical Techniques

Unit 1 – topics on Born Oppenheimer approximation, Nernst glower, Globar sources, Components of an analytical instrument, signal amplifiers and buffer are deleted.

Unit 2 – Theory of UV absorption, Woodward Fieser rules, single & multi component analysis are deleted. Applications of all topics are shifted to unit 5.

Unit 3 – NMR analysis & interpretation, MRI, some topics in MS (EI, ion

spray, magnetic sector, MALDI TOF), and turbidimetry are deleted.

Unit 4 – Application of chromatography is shifted to unit 5, electrophoresis topic from unit 5 is shifted to unit 4 with consideration to fundamental concepts only. Thin layer chromatography is added.

Unit 5 – Previous topics were completely deleted and topics on case studies as application of topics learnt in unit 1-4 are introduced.

Contact hours of all units are re-adjusted.

8.2.14. 13BT514 Food Biotechnology

MPN in unit 1, D values in unit 2, topics on Sensory evaluation of food quality in unit 4, food safety standards in unit 4 are added. In unit 5, role of enzymes in food processing is deleted.

8.2.15. 13BT506 Biokinetics Lab

Experiments are renamed retaining the concepts and aim. Experiments can be performed using alpha amylase enzyme or acid phosphatase enzyme.

8.2.16. 13BT601 Bioprocess Dynamics & Control

Credit is reduced from 4 to 3 and contact hour is structured as 2 hours of lecture and 2 hours of tutorial. More emphasis is given on problem solving approach and basics needs to be dealt in depth. Hence contents are reshuffled. Topics on different control strategies in unit 4 are shifted to unit 1. Measuring devices and related topics in unit 1 are shifted to unit 5 and unit 5 is renamed as Control of Bioreactors. Frequency response topics in unit 5 are merged with stability analysis topics in unit 4.

8.2.17. 13BT602 Upstream Processing Technology

Committee was of the opinion that this course being one of the fundamental courses lacks several aspects. In this connection, whole course was restructured and units were renamed as follows.

Unit 1 – Isolation, Preservation and Improvement of Cell cultures, Unit 2 – Sterilization, Unit 3 – Media Preparation, Unit 4 – Inoculum development, Unit 5 – Fermentation. All units consist of topics on microbial, plant and animal cells. Contents were restructured accordingly.

8.2.18. 13BT603 Downstream Processing Technology

Some topics in unit 1, 3 and unit 5 are elaborated.

8.2.19. 13BT604 Clinical Studies & Data Management

The contact hours is reduced from 4 hours (2:2:0:0) to 3 hours (3:0:0:0).

Contact hours of all units are adjusted to 39 hours with deletion of some topics. In unit 1, Genomics-Pharmacogenetics and Computer-Aided drug design is deleted and personalized medicine is added. Biostatistics in clinical data management topic is removed from unit 4.

8.2.20. 13BT613 Basics of Pharmaceutical Science

Topics on different drugs and pharmacotherapy are added in unit 1. In unit 4, some topics on bioavailability, in vivo analysis, bioequivalence studies, enhancement methods for bioavailability are added. In unit 5, topics on controlled release of drugs, ocular controlled release systems, intranasal controlled release systems, pulmonary controlled release systems, and Bio-availability testing of controlled-release formulations are added.

8.2.21. 13BT614 Process Equipment Design

In unit 1, P&I diagram, topics on Design information and data, physical properties of pure fluids and mixtures are added; mechanical design of non-standard flanges and sterilizer design are deleted. In unit 2, Design of DPHE and various bioreactors is deleted. Instead, design of rotary dryer and batch extractor are added. Hours for various topics are re-appropriated.

8.2.22. 13BT606 Upstream Processing Lab

Some experiments are renamed keeping the aim/concept unchanged.

8.2.23. 12BT703 Transport Phenomena

Unit 1: Concepts are reduced to 1D only, topics analogy and self study on vectors is removed.

Unit 2: Topic on flow through annulus, NavierStoke's equation are removed. Viscometers is added.

Unit 3: Convection on flat surface (forced and natural) is removed.

Unit 4: flux equation is only for steady state process, transient diffusion is removed.

8.2.24. 12BT721 Environmental Biotechnology

Unit 2 title changed as Waste water treatment (earlier Waste water management). A topic on skimming tanks in unit 2 is added. A text book is added to the list.

8.2.25. 12BT725 Solid & Hazardous Waste Management

Legislative trends and impacts: Major legislations, Government agencies in unit 1 is shifted to unit 5.

8.2.26. 12BT801 Industrial Management and Entrepreneurship

Case studies in unit 5 are introduced and will be dealt as self study component.

8.2.27. 12BT813 Cancer Biology

Topics on detection using biochemical assays, molecular tools for early diagnosis of cancer in unit 1 deleted. Topics on Metastasis are added in unit 1. In unit 2, topics on Multi-step origin of cancer, collaboration of two or more mutant genes are deleted. In unit 3, some topics on tumorigenesis and factors affecting tumorigenesis are added. Topics on metastasis in unit 3 are deleted. A text book is added.

8.2.28. 12BT821 Biopharmaceuticals

Some outdated books are removed from text book & reference list.

8.2.29. 12BT822 Modeling& Simulation of Biosystems

Unit 1: Renamed as Fundamentals & Linear Algebraic Equations, some example systems are explicitly mentioned. Unit 2: Renamed as Non-Linear Algebraic Equations, problems on linear models are shifted to unit 1. Some model systems are explicitly cited. Unit 3: Problems are mentioned specifically and method of numerical analysis by RungeKutta 4th order only. Unit 4: Problems are specified. Unit 5: open source and commercial packages (with examples) is added. MATLAB programming & SIMULINK details are expanded to specific topics.

8.2.30. 12BT802 Project

Distribution of marks for CIE, report and Viva voce was clearly mentioned.

8.3 Additional suggestions made during the meeting are as follows:

8.3.1 Self study in the following courses is suggested: 14BT302, 14BT405, 13BT503, 13BT504, 13BT505, 13BT603, 12BT702, 12BT801.

8.3.2 Tutorial classes are suggested in order to teach numericals and make fundamental concepts stronger in the following courses: 14BT305, 14BT402, 13BT501, 13BT601.

8.3.3 Faculty teaching the course Unit Operations should emphasize the applications relating to down stream operations. The topics covered in Unit operations should be fundamental and in depth. Down stream processing Technology course should extrapolate this course to applications.

8.3.4 In 14BT404 Structural Biology, visualization tools should be used as teaching aid. This will help learning structures and interactions efficiently.

8.3.5 Topics on programming can be considered in Bioinformatics & Applications.

8.3.6 Microbiology lab is the fundamental backbone of biotechnology. In Microbiology lab, different aspects of aseptic techniques like cotton plugging, use of proper glass ware, how media is prepared for different cases should be elaborately taught.

8.3.7 Audit courses on Environmental Biotechnology / Waste water treatment were suggested where experiments on COD, BOD, heavy metal analysis, biosorption, gravimetric analysis are included.

8.3.8 During 8th semester, along with course on 12BT801 Industrial Management and Entrepreneurship, students should be encouraged to visit startups and financing bodies (for SSI) to gain more exposure.

8.3.9 A course on Design and Analysis of Bioreactors is necessary to bridge the missing gaps. Present elective course Process Equipment Design can be renamed and converted as core in the 7th Semester. Transport phenomena can be transferred to elective course with more emphasis on examples of transport phenomena in biological systems in the next academic year.

8.4 Biology for Engineers

A new course, Biology for Engineers will be offered for the first year for all streams of engineering from the academic year 2015-16 onwards. The syllabus for the same was discussed and approved. The course will have contact hours of 2 hours per week, there will be CIE but no SEE. This course will be offered under non credit mandatory learning course (MLC).

Mathematics Department

Board of Studies 2015 -2016

Minutes of the BOS meeting held on 6-6-2015

1. 1st and 2ns sem. mathematics syllabi are reviewed and no changes have been made this time as it was revised in 2014 BOS meeting.

2.From BT 301, we have replaced partial differential equations(as it is shifted to 2nd sem. mathematics) byincluding some more concepts of Numerical methods. This change is about 20%.

3. In CV 301 Unit V on numerical solution of first order diff. equations is shifted to CV401 and some other concepts on numerical methods is incorporated to CV301. Unit V of CV 401 is moved to II sem.

4. In CS/IS 401, first three units are restructured and reduced to two units and stochastic process is incorporated in the 3rd unit.

5. In EC/EE401 and ME401 partial differential equations is removed from the 4th unit as it is included in the II sem. Gamma and Chisquare distributions are added to Unit-II of EC/EE401 which deals with

Probability distributions.

6. Mathematics syllabi for M. Tech in three branches are reviewed and retained.

Department of Chemistry

Meeting chaired by: HOD Meeting facilitated by: Dean, Academics

Minutes of meeting

Course contents of the subject 15CY110-Engineering Chemistry, 15CY117-Engineering Chemistry Lab and CH8X-Natural Products Chemistry were presented to the board.After thorough discussion, the course contents were approved by the board with minor modification wherever found necessary.

Department of Humanities

Meeting date: 13th June 2015 Place: NMAMIT, Nitte

Minutes of the Meeting:

Course contents of the subjects:

1. English and Communication Skills : 15HU114
2. Constitution of India and Professional Ethics : 15HU107
3. Intellectual Property Rights : HU8X03
4. Value Education : HU8X20
5. Professional & Cognitive Communiqué : HU8X24

were presented to the board. After thorough discussion, the course contents were approved by the board with modification wherever found necessary. The increase in the teaching hours of English and Communication Skills (15HU114) from 01 theory class to 02 theory classes and 01 hour lab session per week and also reduction of the contact hours of Constitution of India and Professional Ethics (15HU107) just to 01 hour per week were also presented to the board and approved. The board directed to include the third and fourth units of the paper 'Constitution of India and Professional Ethics (15HU107) as self-study component with required guidance by the teacher.