MANDATORY DISCLOSURE
(Master of Computer Applications)

The following information is to be given in the Information Brochure besides being hosted on the Institution's official Website.

"The information has been provided by the concerned institution and the onus of authenticity lies with the institution and not on AICTE".

I. NAME OF THE INSTITUTION

Address : Kandula Srinivasa Reddy Memorial College of Engineering
Yerramasupalle(Village)
Chintakomma Dinne (Mandal),
Kadapa – 516 003

Telephone Numbers : 08562-244325, 241393
Fax : 08562-248829
e-mail : ksrmcengg@yahoo.co.in

II. NAME & ADDRESS OF THE
DIRECTOR/ PRINCIPAL : Dr. V.S.S. Murthy,
Principal,
3/438, Singh Compound,
Raja Reddy Street,
Kadapa-516 001.

Telephone Number : 08562-273972(R)
9391960001 (Cell No.)
08562-241393 (O)
Fax : 08562-248829
E-mail : principal@ksrmce.ac.in

III. NAME OF THE AFFILIATING UNIVERSITY : **SRI VENKATESWARA UNIVERSITY, TIRUPATI – 517 502**

IV. GOVERNANCE

- Members of the Board and their brief background

S.No.	Members	Brief background
1.	Sri S. Sankar Reddy Chairman	Industrialist and Philonthrophist
2.	Sri K. Sivananda Reddy Correspondent	Ex-MLA and Industrialist
3.	Sri R. Rajagopal Reddy Member	Engineer and Ex-Minister of Govt. of A.P Expert and issues related to Irrigation.
4.	Sri M. Naga Subba Reddy Member	Retired Superintend Engineer of R&B Department of Govt. of A.P
5.	Director Southern Region, AICTE, Chennai AICTE, Nominee	Ex-Office member

6.	Prof. K.S.N. Reddy Director, Kandula Group of Institutions, Kadapa.	He is a Member and Senior most Professor in EEE Department, KSRM College of Engg., Kadapa.
7.	Sri S. Raghavacharya Member, State Govt. Nominee	Senior Professor in NIT, Warangal
8.	Prof. B. Bhagavan Reddy Member, University Nominee	Dept., of Commerce S.V. College of Arts & Science, Tirupati
9.	Dr. D. Krishna Murthy Member, University Nominee	Dept., of Commerce, S.V. University Turupati
10.	Regional Joint Director of Technical Education, Tirupati (DTE Nominee)	A Senior level A.P. Govt. official related to technical education
11.	Dr.V.S.S. Murthy, Principal, KSRM College of Engg., Kadapa. Member & Convener	He is the Convener of the meeting of the Governing Body

- Members of Academic Advisory Body

Academic Advisory Body is yet to be constituted.

- Frequency of the Board Meetings and Academic Advisory Body

The Govt., Body meetings are convened twice in a year In addition to that, meetings convened as and when necessary.

- Organizational chart and processes

Enclosed

- <u>Mechanism/Norms & Procedure for democratic / good governance</u>

The college is following the norms and procedure as prescribed by the AICTE/ S.V. University / Govt. of A.P. for good governace.

- Nature and Extent of involvement of faculty and students in academic affairs/ improvements

The faculty and the student are involved in the academic affairs and developmental activities of the college. For each class there is a class representative and a class teacher and regular counseling and meetings being conducted for academic affairs improvement. Students and faculty are encouraged to attend seminars/conferences/workshops etc.

- Governance redressal mechanism for faculty, staff and students.

Faculty, staff and students whoever has any grievance can directly represent to the Principal for redressal, who will immediately find solution for redressal, in consultation with the Management. The opinion of the Governing Body is also obtained wherever necessary.

V. PROGRAMMES

❖ Name of the Programmes approved by the AICTE
Engineering (B.Tech., M.Tech., MCA)

Programme	Name of the Branch/ Specialization
B.Tech	**CE,EEE,ECE,ME,CSE,IT**
M.Tech	**CAD/CAM(ME),CSP(ECE),GTE(CE)**
MCA	**Computer Appilcations**

❖ Name of the Programmes accredited by the NBA, New Delhi

CE, EEE, ECE, ME, CSE

❖ For each Programme the following details are to be given

- Name : **MCA**
- Number of seats : **60**
- Duration : **3 Years**
- Cut off mark/rank for admission during the last three years : **Students are admitted as per Admission during the last three years ICET by the Convener, ICET**
- Fee : **26,700/-**
- Placement Facilities : **Available**
- Campus placement in last three years with minimum salary, maximum salary and average salary

Year	No. of Students	Max. Salary	Min. Salary
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VI. FACULTY

❖ Permanent Faculty

S.No.	Faculty Member	Qualification	Designation	Date of Joining
1	E.A. Swetha	MCA	Assistant Professor	15-06-2009
2	M. Gowri Devi	MCA	Assistant Professor	15-06-2009
3	V. Sirisha	MCA	Assistant Professor	15-06-2009
4	N. Nagamani kanta	MCA	Assistant Professor	15-06-2009
5	B. Naveen Kumar	MCA	Assistant Professor	01-08-2009
6	P. Nageswara Reddy	MCA	Assistant Professor	01-08-2009
7	C. Gopal Reddy	MCA	Assistant Professor	01-08-2009
8	Mohammed Ali Sameeulla	MCA	Assistant Professor	01-08-2009

❖ Visiting Faculty : Nil
❖ Adjunct Faculty : Nil
❖ Guest Faculty : Nil
❖ Permanent Faculty Student Ratio : 1:15

❖ Number of Faculty Employed and left during the last three years

Year	Faculty Employed	Faculty Left
2009-10	08	04

VII Profile of the Principal

(Name of the principal/Director date of joining and Experience details)

Name of the staff member :Dr.V.S.S.MURTHY

Designation : Principal

Date of Birth : 15-07-1965

Academic Qualification

Name of the Degree	Specialization	Name of the University	Year of Passing	Class
B.E	Mechanical Engineering	Nagarjuna University	1987	First
M.Tech.	IC Engines & Gas Turbines	Regional Engineering.College, Warangal	1991	First
Ph.D.	IC Engines	J.N.T.University, Anantapur	2005	---

Experience in Teaching

Details of Experience	Designation	From	To
Principal	K.S.R.M.College of Engineering	08-12-2008	Till Date
Professor	"	01-09-2007	07-12-2008
Associate Professor	"	01-10-2004	31-08-2007
Senior Lecturer	"	16-07-1997	30-09-2004
Lecturer	"	06-12-1990	15-07-1997

Number of Paper Published/Presented : 14

National:

Journals : 01

Conferences : 09

International:

Conferences : 04

M.Tech, Guided : Nil

Number seminars Attended : 02

Summer/ Winter Schools Attended : 04

FACULTY

1. **Name** : **E.A. Swetha**
2. **Date of Birth** : **26-08-1984**
3. **Educational Qualification** : **M.C.A**
4. **Work Experience**

Teaching	**: 8 M**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

5. **Area of Specializations** : **Nil**
6. **Subjects teaching at Under Graduate Level : -**
   Post Graduate Level :
7. **Research guidance**

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

8. **Projects Carried out** : **Nil**
9. **Patents** : **Nil**
10. **Technology Transfer** : **Nil**
11. **Research Publications** : **Nil**
12. **No. of Books published with details : Nil**

FACULTY

1. Name : M. Gowri Devi

2. Date of Birth : 13-02-1983

3. Educational Qualification : M.C.A

4. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

5. Area of Specializations : Nil

6. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

7. Research guidance

Master's
Ph.D.

No. of papers published in

National Journals	**: Nil**
International Journals	**: Nil**
Conferences	**: Nil**

8. Projects Carried out : Nil

9. Patents : Nil

10. Technology Transfer : Nil

11. Research Publications : Nil

12. No. of Books published with details : Nil

FACULTY

1. Name : V. Sirisha

2. Date of Birth : 09-06-1985

3. Educational Qualification : M.C.A

4. Work Experience

Teaching : Nil

Research : Nil

Industry : Nil

Others : Nil

5. Area of Specializations : Nil

6. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

7. Research guidance

Master's
Ph.D.

No. of papers published in

National Journals : Nil
International Journals : Nil
Conferences : Nil

8. Projects Carried out : Nil

9. Patents : Nil

10. Technology Transfer : Nil

11. Research Publications : Nil

12. No. of Books published with details : Nil

FACULTY

1. Name : **N. Nagamaikanta**

13. Date of Birth : **05-01-1982**

14. Educational Qualification : **M.C.A**

15. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

16. Area of Specializations : **Nil**

17. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

18. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

19. Projects Carried out : **Nil**

20. Patents : **Nil**

21. Technology Transfer : **Nil**

22. Research Publications : **Nil**

23. No. of Books published with details : Nil

FACULTY

1. Name : B. Naveen Kumar

2. Date of Birth : 18-07-1985

3. Educational Qualification : M.C.A

4. Work Experience

Teaching	**: 6 M**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

5. Area of Specializations : Nil

6. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

7. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

8. Projects Carried out : Nil

9. Patents : Nil

10. Technology Transfer : Nil

11. Research Publications : Nil

12. No. of Books published with details : Nil

FACULTY

1. Name : P. Nageswara Reddy

2. Date of Birth : 05-05-1984

3. Educational Qualification : M.C.A

4. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

5. Area of Specializations : Nil

6. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

7. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

8. Projects Carried out : Nil

9. Patents : Nil

10. Technology Transfer : Nil

11. Research Publications : Nil

12. No. of Books published with details : Nil

FACULTY

1. Name : C. Gopal Reddy

2. Date of Birth : 12-06-1985

3. Educational Qualification : M.C.A

4. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

5. Area of Specializations : Nil

6. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

7. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

8. Projects Carried out : Nil

9. Patents : Nil

10. Technology Transfer : Nil

11. Research Publications : Nil

12. No. of Books published with details : Nil

FACULTY

1. Name : S. Md. Ali Sameeulla

2. Date of Birth : 29-11-1984

3. Educational Qualification : M.C.A

4. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

5. Area of Specializations : Nil

6. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

7. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

8. Projects Carried out : Nil

9. Patents : Nil

10. Technology Transfer : Nil

11. Research Publications : Nil

12. No. of Books published with details : Nil

VIII. FEE

- Details of fee, as approved by State fee Committee, for the Institution.
  MCA
  Rs.26,700/- per student per annum in respect of the student allotted by the ICET Convener, and Rs.73,100/- per annum for the seats under Management Quota.
- Time schedule for payment of fee for the entire programme.
  With in 15 days form the date of commencement of the class work for all the students
- No. of Fee waivers granted with amount and name of students : **Nil**
- Number of scholarship offered by the institute, : **Nil**

duration and amount

- Criteria for fee waivers/ scholarship : **25% of the fee concession for one child of the employees of this institution from 2nd MCA onwards.**

- Estimated cost of Boarding and Lodging in Hostels.
  Rs.25000/- p.a. per student lodging in Hostels.

IX. ADMISSIONS

- Number of seats sanctioned with the year of approval.:

Seats	Year
60	**2009**

- Number of students admitted under various categories each year in the last three years.
  Nil
- Number of applications received during last two years for admission under Management Quota and number admitted.

Year	Application Received	No. of Candidates Admitted
2008-09	**--**	**--**

X. ADMISSION PROCEDURE

- Mention the admission test being followed, name and address of the Test Agency and its URL (website) : **ICET, Sankethika Vidya Bhavan, Hyderabad**
  www.icet.org

- Number of seats allotted to different Test Qualified candidates separately
  [AIEEE/CET (State conducted test/ University tests)/ Association conducted test]

  ICET : 42 (70%)
  Management Quota : 18 (30%)

- Calendar for admission against management / vacant seats:

  The Management/ vacant seats are filled within 15 days or the date fixed by the ICET convener after closure of admissions by the convener, ICET and receipt of the list of candidates admitted from the convener.

XI. CRITERIA AND WEIGHTAGES FOR ADMISSION

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The candidates are admitted as per their rank in the ICET, conducted by the Convener, ICET.

XII. APPLICATION FORM

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Available at website ksrmce.ac.in/applicationform.doc

XIII. LIST OF APPLICANTS

The candidates are admitted as per their rank in the ICET in respect of 70% seats under ICET Convener quota. 30% seats under Management quota are filled with the candidates who secured 50% aggregage/50% in group subjects in the qualifying examination or qualified in the ICET.

XIV. RESULTS OF ADMISSION UNDER MANAGEMENT SEATS/ VACANT SEATS

The Management seats are filled by the management with the qualify examination/ICET. The vacant seats are filled with the ICET qualified candidates in the institutional spot admission as per the guide lines given by the ICET, Convener.

XV. INFORMATION ON INFRASTUCTURE AND OTHER RESOURCES AVAILABLE

LIBRARY :

Central Library :

- **No. of Titles : 200**
- **No. of Volumes : 1500**
- **No. of Journals : 12**

LABORATORY:

- List of Major Equipment/ Facilities
  UPS-10KVA
  Networking (LAN)
  Internet 512 kbps – BSNL

- List of Experimental Setup
  Not Applicable

COMPUTING FACILITES :

- **Number and Configuration of Systems: 60**
  Configuration of Systems:
  Pentium core 2 Duo 2.4 GHz, 2 GB RAM, 160 GB HDD

- Total number of systems connected by LAN
  60
- Total number of systems connected to WAN
  Nil
- Internet bandwidth
  Leased line from BSNL with bandwidth of 512 kbps continuous.

- Major software packages available

System Software

1. **Windows 2003 Server**
2. **MS XP Professional**

Application Software

1. **Microsoft Office Professional**
2. **Office XP Suites**
3. **Symantec Anti Virus – Corporate Edition 2005**
4. **Office Automation Software**

- Special purpose facilities available
  First Aid Kit, Fire extinguisher

- List of facilities available

❖ **Games and Sports Facilities**

The pay fields in our college are located ideally adjoining the college buildings in the campus. An approximate area of 10 acres of land has been set apart of play fields. All kinds of play courts for games like Valley Ball, Ball Badminton, Basket Ball, Tennies, Handball, Foodball, Tennikoit, and throwball. Courts are available and also circket ground is also available in the campus right from beginning. The department has considerable facilities for indoor games like Caroms, Table Tennies and Chess. On the sports from the college has a separate track of 400 mts. for Athletic facilities for Long-jump, High-jump, Tripple-jump with marked pits in the campus. Throwing events like Short-put, Javelin, discuss and Hammer throw area also being conducted from time to time.

- **Extra Curriculum Activities**

❖ **Soft Skill Development Activities : Nil**
❖ **Number of Classrooms and size of each : 02**
❖ **Number of Tutorial rooms and size of each : 02**
❖ **Number of Laboratories and size of each : 01**

- **Number of Computer Centres with capacity of each**

Computer Centre	**Capacity**
01	**60**

❖ **Central Examination Facility, Number of rooms and capacity of each.**
Central Examination Facility, Number of rooms and capacity of each.

College is having a separate examination wing to look after the examination (both sessional exams and University examinations) as mentioned below.

1. Chief Superindent of Exams (University) : Dr. A .Sudhakar Reddy
   (Asso. Professor of M.E Dept)
2. Chief Superindent of Exams (Sessionals) : Sri.K. Ramamohan Reddy
   (Asso. Professor of E.E.E Dept)
3. Addl. Chief of Exams : Sri J.V.R.Ramesh
   (Asst. Professor in M.E Dept)
4. Clerical Staff : 1. Sri.S.Balaveera Reddy (Sr.Asst.)
   2. Sri.K.Subba Reddy (Jr.Asst.)
   3. Sri.N.Nityapuja Reddy (Rec.Asst)
   4. Sri.Y.Nagamuni Reddy (Rec.Asst)
   5. Sri.B.Nayrana (Attender)
   6. Sri.J.Naga Subbaiah (Van Driver)

Chief Suptd. Of Exams (Univesity) is functioning in Room number 306 (Main building) with adequate security for the room. We have two Pentium –IV Computers for the Registrations and other details in the section. There are six(06) Iron safes in the section to store the Confidential materials like University question papers and University main answer books (received from S.V. University, Tirupathi) Two wood almerahs are in the section to store the required forms and the data books to be supplied during the examination as prescribed by the University.

The rooms that are available for examination purpose block wise and the capacity of the each room is as mentioned below (Total capacity of 1860).

Examination section is having high speed digital photo copier, Xerox machine and printer along with the duplicating machine.

Examination section is provided with a separate Van for the transport of the examination staff and external lab examiners (University) of 10 seat capacity

Examination section is well versed with the conducted of University examinations as well as other Government examinations held at KSRMCE on number of occasions.

Govt. Examinations Conducted are :

APGENCO - Asst. Engineers recruitment (May, 2004) – 600 capacity

APPSC - Group – I Examinations (April, 2004) – 800 capacity

APPSC - Group – II Examinations (Oct, 2004) – 800 capacity

EAMCET – 2005 (Both for Engg., & Machine) -1000 capacity (each session)

EDCET – 2004 DIETCET-2004 and such many other Govt., examinations were conducted by the exam section at KSRMCE in the past 20 years.

Number of rooms and capacity of each:

Main Block			**Civil Engg., Block**		
Sl.No.	**Room No.**	**Capacity**	**Sl.No.**	**Room No.**	**Capacity**
1.	301	60	9	CE 101	30
2.	302	30	10	CE 102	30
3.	303	30	11	CE 109	30
4	305	25	12	CE 111	30
5	309	30	13	CE 201	30
6	316N	80 (Drawing Hall)	14	CE 204	30
7	316 M	62(Drawing Hall)	15	CE 205	30
8	316 S	64(Drawing Hall)	16	CE 212	30
			17	CE 213	30
			18	CE 214	30
			19	CE 215	30
			20	CE 216	30
			21	CE 217	30
			22	CE 218	30
			23	CE 219	30
Mech Engg., Block			**PG Block**		
24	ME 101	30	33	PG 108	40
25	ME 102	30	34	PG 109	30
26	ME 111	30	35	PG 110	30
27	ME 201	30	36	PG 111	30
28	ME 202	30	37	PG 113	30
29	ME 209	30	38	PG 114	30

30	ME 205	75 (Drawing Hall)	39	PG 117	30
31	ME 207	30	40	PG 208	30
32	ME 208	30	41	PG 209	30
			42	PG 210	30
			43	PG 211	30
			44	PG 213	30
			45	PG 214	30

- **Teaching Learning Process: Nil**

- Curricula and syllabi for each of the programmes as approved by the University

SRI VENKATESWARA UNIVERSITY: : TIRUPATI – 517502
MASTER OF COMPUTER APPLICATIONS
(With Effect from the Academic Year 2007-08)
SCHEME OF INSTRUCTION AND EXAMINATION

Semester	Course Number	Course Title	Instruction Peroids per week L	T	P	Total	Max. Marks Sess.	Univ	Total Marks
First	MCA 101	Discrete Mathematics	3	1		4	30	70	100
	MCA 102	Probability and Statistics	3	1		4	30	70	100
	MCA 103	Introductory Programming	3	1		4	30	70	100
	MCA 104	Computer Organization	3	1		4	30	70	100
	MCA 105	Organization and Management	3	1		4	30	70	100
	MCA 106P	Software Lab1			3	3	30	70	100
	MCA 107P	Programming Lab			3	3	30	70	100
	MCA 108P	PC Hardware and ALP Lab			3	3	30	70	100
Second	MCA 201	Computer Oriented Operations Research	3	1		4	30	70	100
	MCA	Data Structures	3	1		4	30	70	100

	202								
	MCA 203	Operating System	3	1		4	30	70	100
	MCA 204	File Structures	3	1		4	30	70	100
	MCA 205	Accounting and Financial Management	3	1		4	30	70	100
	MCA 206P	Software Lab2			3	3	30	70	100
	MCA 207P	DS Lab			3	3	30	70	100
	MCA 208P	File Structures Lab			3	3	30	70	100
Third	MCA 301	DBMS	3	1		4	30	70	100
	MCA 302	Data Communication and Computer Networks	3	1		4	30	70	100
	MCA 303	Software Engineering	3	1		4	30	70	100
	MCA 304	Design and Analysis of Algorithms	3	1		4	30	70	100
	MCA 305	Technical Communication and computer ethics	3	1		4	30	70	100
	MCA 306P MCA 307P	Software Lab3 Software Engineering Lab			3 3	3 3	30 30	70 70	100 100
	MCA 308P	DBMS Lab			3	3	30	70	100
Fourth	MCA 401	Production and Marketing Management	3	1		4	30	70	100
	MCA 402	Data Warehousing and Data Mining	3	1		4	30	70	100
	MCA	Web Programming	3	1		4	30	70	100

	403								
	MCA 404 MCA 405	Elective I Elective II	3 3	1 1		4 4	30 30	70 70	100 100
	MCA 406	Software Lab4(Elective I &II)			3	3	30	70	100
	MCA 407P	Web Programming Lab			3	3	30	70	100
	MCA 408P	Data Mining Lab			3	3	30	70	100
	MCA 408S	Seminar		2		2	50		50
Fifth	MCA 501	Computer Graphics				4	30	70	100
	MCA 502	OOSD	3	1		4	30	70	100
	MCA 503	System Programming	3	1		4	30	70	100
	MCA 504	Elective III	3	1		4	30	70	100
	MCA 505	Elective IV	3	1		4	30	70	100
	MCA 506P	Software Lab5			3	3	30	70	100
	MCA 508P	Software Lab6			3	3	30	70	100
	MCA 507P	Mini Project			3	3	30	70	100
	MCA 508	Seminar		2		2	50		50
Sixth	PROJECT				40	40	100	200	300

MCA 404 Elective:

1. UID
2. Artificial Intelligence.
3. Computer System Performance and Evaluation
4. PPL

MCA 405 Elective:

1. E-Commerce
2. Network Security.
3. Advanced Computer architecture
4. Network Managements Systems

MCA 504 Elective:

1. ERP
2. DSS
3. Distributed Systems
4. Distributed Operating System

MCA 505 Elective:

1. Image Processing
2. Multimedia System
3. Real Time System
4. Software Testing

MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER I

MCA 101: DISCRETE MATHEMATICAL STRUCTURES

UNIT I: Logic and Proof, Sets and Functions – Logic Propositional equivalence, Predicates and Quantities, Nested quantifiers, Methods of Proof, sets, set operations, functions.

UNIT II: The Integers and Division, Integers and Algorithms, Applications of Number theory, Mathematical reasoning, Induction and Recursion – Proof strategy, Sequences and Summations, Mathematical induction. Recursive definitions and Structural induction, Recursive algorithms, Program correctness.

UNIT III:- The basics of counting, the pigeonhole principle, Permatations and Combinations, Binomial coefficients, Generalized permutations and combinations, Generating permutations and combinations, Recurrence relations, Solving recurrence relations.

UNIT IV:- Relations – Relations and their properties, n-ary Relations and their applications, Representing Relations, Closures of relations, Equivalence relations, Partial orderings. Languages and Grammers, Finite state machines with output, Finite state machines with no output, Language recognition, Turing machines.

UNIT V:- Graphs – Introduction to Graphs, Graph terminology, Representing graphs and Graph isomorphism, Connectivity, Euler and Hamilton Faths, Shortest Path problems, Planar graphs, Graph coloring.

Text Book: Rosen K.H. Discrete Mathematics and its Applications, 5th edition, Tata McGraw – Hills, 2003.

REFERENCE BOOKS:

1. Johnson Baugh R, and Carman R, Discrete mathematics, 5th edition, Person Education, 2003.
2. Kolman B, Busoy R.C, and Ross S.C, Discrete Mathematical Structures, 5th edition, Pretitice – Hall, 2004.
3. Mott J.L, Kandel A, and Bake T.P, Discrete Mathematics for Computer Scientists & Mathematicians, 2nd edition, Prentice-Hall of India, 2002.
4. Gary Haggard, John Schlipf and sue Whitesides, Discrete Mathematics for Computer Science, Thomson, 2005.

MCA 102: PROBABILITY AND STATISTICS

UNIT I: Probability: Sample space and events – Probability – The axioms of probability – some elementary theorems – conditional probability – Bayes Theoroem.

UNIT II: Random variables – Discrete and continuous – Distribution – Distribution, function. Binomial Poisson and Normal distributions – related properties.

UNIT III: Sampling distribution: Population and samples – sampling distributions of mean (Known and unknown) proportions, sums and differences: Point estimation – interval estimation – Bayesian estimation.

UNIT IV: Test of hypothesis – mean and proportions – Hypothesis concerning one and two means – Type I and Type II errors. One tail, two-tail tests. Test of significance – students t-test, f-test, x^2-test. Estimation of proportions.

UNIT V: Curve fitting: The method of least squares – Inferences based on the least squares estimation Curvilinear regression – multiple regressions – correlation for univiarivate and bivariate distributions.

TEXT BOOKS:

1. W. Mendenhall, R.J. Beaver and B. M. Beaver, Introduction to Probability and Statistics, Twelfth Edition, Thomson, 2007
2. Erwin Miller and John E. freund. *Probability and Statistics for engineers, 6th edition, Pearson*

EDUCATION/PHI REFERENCE BOOKS:

1. Hogg R V, and Craig A L, *Introduction to Mathematical Statistics, American Publishing.*
2. Blake I E, *An Introduction to Applied Probability,* John Wiley.
3. Lipschutz S, *Probability (*Schaum Series) Mc Graw-Hill.
4. Montgomery D C, *Introduction to Statistical Quality* Control, Wiley.
5. Montgomery D C, *Design and Analysis of Experiments, 5th* edition, Wiley, 2000.
6. Grant E.L. and Lcavenworth R.S. Statistical Quality Control 7th edition, Mc Graw – Hill 2003.
7. Dr. Shahnaz Bathul, Text Book of Probability and Statistics, VGS Publishers, 2003.

MCA 103: INTRODUCTORY PROGRAMING

UNIT I: Software Overview, Software development process, Introduction to C++, The character set, Data types, Operators, C++ declarations. Input/Output statements, Expression evolution, Assignment statement, Control structures, Pre-processor directives.

UNIT II: Functions – Parameter passing Function prototypes, Scope rules: Arrays, Strings, I/O formatting, Files.

UNIT III: Basic concepts of Object Oriented Programing – Objects, Classes, Data abstraction, Data encapsulation, Inheritance, Polymorphism, Dynamic binding, Message passing: Object oriented software development – Class diagram, Object diagram, Use case diagram, State chart diagram, Activity diagram.

UNIT VI: Classes, and Objects in C++, Constructors, and Destructors, Operator overloading. Type conversions, inheritance.

UNIT V: Pointers, Memory management – new, and delete operators, Dynamic objects: Binding, Polymorphism, Virtual functions, Templates, Exception handing.

Text Books:

1. Kamthane A.N. Object-oriented Programming with ANSI & Turbo C++ Pearson Education 2003.

References Books:

1. Stroustrup B, The C++ Programmin Language, Special Edition, Addison Wesley, 2000.
2. Wang P.S, Standard C++ with Object Oriented Programming, 2nd edition, Thomson Learning, 2001.
3. Booch G, Rumbaugh J, and Jacobson I, The Unified Modeling Language User Guide, Addison Wesley, 1999 (For Unit III)
4. Pohl I, Object-Oriented Programming Using C++ 2nd edition, Addison – Wesley, 1997.
5. Lippman and Lajoie, C++ Primer, 3rd Edition Addison, Wesley, 1998.
6. Deitel and Deitel, C++ How to Program 3rd edition Pearson Education, 2001.
7. Lafore R, Object-Oriented Programming in Turbo C++, Galgotia Publications, 1998.
8. Lawlor S C, The Art of Programming: Computer Science with C++, Thomson Learning, 1998.
9. Chandra B. Object-Oriented Programming in C++, Narosa Publishing House, 2002.
10. Ravichandran D, Programming with C++, Tata MeGraw-Hill, 2003.

MCA104: COMPUTER ORGANIZATION

UNIT I: Logic Circuits: Logic functions – synthesis of logic functions – Minimizations of logic - Synthesis with NAND and NOR gates Implementation of Logic gates - Flip-flops – Registers and shift registers – counters – decoders – Multiplexesrs – PLDs – sequential circuits. Basic Structure of Computers: Functional Units - Basic operational concepts – Bus structures – performance – Multiprocewessors and Multi computers: Functional Units – Basic operational concepts – Bus structures – performance – Multiprocessors and Multicomputers – Historical Perspective.

UNIT II: Machine Instructions and programs: Numbers, Arithmetic operations and characters – Memory locations and address, operations – instructions and instruction, sequencing – addressing modes - assembly language – basic input/output operations – subroutines – encoding of Machine instructions. Instructions – Assembly language –O/I operations – Registers and addressing – Instructions language – program flow control – I/O operations logic instructions of 6300 and Intel Pentium.

UNIT III: Input / Output organization: accessing I/O Devices – Interrupts – direct memory access – buses 240-interface circuits – Standard I/O Interfaces.

UNIT IV: Memory System, Concepts – semiconductor RAM memories - Resdonly memories – cache memories – performance considerations – virtual memories management requirements – secondary storage Arithmetic: Addition and subtraction of signel members – design of fast adders – multiplication of positive members – signed operand multiplication – fast multiplication – integer division – floating point numbers and operations.

UNIT V: Basic Processing Unit: Concepts – execution of a complete instruction – Multiple – Bus organization – hardware control – microprogrammed control. Pipelining: Concepts – Data hazards – instruction hazards – influence on Instruction sets - data path and control constructions – supers cal operation- ultra SPARC II – Performance considerations.

Text Books: Hamacher C, Vranesic Z, and Zaky S. Computer Organization, 5th edition, Mc Graw – Hill, 2002.

Reference Books:

1. Stallings W, Computer Organization and Architecture, 6th edition. Parson Education, 2003.

2. Mano M.M. Computer System Architecture, 3rd edition. PHI, 1993.
3. Yarbrough JM, Digital Logic – Applications and Design, Thomas Lernig, 1997.
4. Heuring VP, and Jordan HF, Computer Systems Design and Architecture, Pearson Education, 1997.

MCA 105 : ORGANIZATION AND MANAGEMENT

UNIT I : Fundamentals of Management – Management Thought- The Concept, Nature of And Process of planning – Objectives of Business – Instrument of Planning.

UNIT II: Decision Making – Organisation and organization Structures – process of organizing – Departmentation – Line – staff and lateral relations.

UNIT III: Delegation and decentralization – Directing and problems in Human relations – Motivation

UNIT IV: Communication – Leadership –Coordination – Management control – Control techniques.

UNIT V: Dynamic Personnel Management – staffing policies and process – wage and salary administration.

Text Book:

1. Agarwal R D, "Organisation and Management". Tata Mc Graw – Hill publishing Company Limited, New Delhi.
2. Kootz H, and Weihrich H, Essentials of Management, 5th edition, Tata Mc Graw – Hill, 1998.
3. Biswajeet Pattanayak, Human Resource management – Prentice – Hall India Private Ltd, New Delhi, 2001.
4. Aswathappa K., Human Resource and Personnel Management, Text and Cases, 3rd edition, Tata Mc Graw – Hill Publishing Company Ltd., New Delhi, 2004.

Reference Books :

1. Mirza S Saiyadain Human Resource Management, 3rd edition, Tata Mc Graw Hill, New Delhi, 2003.
2. Weihrich H, and Koontz H, Management – A Global Perspective, 10th edition, Mc Graw – Hill, 1994.

3. Robbins SP. And DeCenzo D, Fundamentals of Management, 4th edition, Prentice Hall, 2003.
4. Dessler G, Management: Principles and Practices for Tomorrow's Leaders, 3rd Edition, Prentic Hall, 2003.
5. Chandan J S, Management Concepts and Strategies, Vikas Publishing House, 2002.
6. Ivencevich. John M., Human Resource Management 9th edition, Tata McGraw Hill, New Delhi, 2003.
7. Decenzo David, A., Robins Stephon P., Human Resource Management, 7th Edition, John Wiley & Sons (Asia) Pte. Ltd, Singapore 2002.
8. Dessler Gary Human Resource Management, 8th edition, Pearson Education, New Delhi, 2002.

SEMESTER II

MCA 201: COMPUTER ORIENTED OPERATIONS RESEARCH

UNIT I: Overview of Operations Research Modeling Approach, Decision Analysis and Games Decision environments, Decision making under Certainty, Decision making under Risk, Decision under Uncertainly, Game Theory.

UNIT II: Linear Programming – Formulation, Graphical method, Simplex method, Duality, Revised Simplex method. Transportation, Assignment and Transshipment models. Goal Programming – Formulation, Weighting and Preemptive methods.

UNIT III: Nonlinear Programming – Sample applications, Graphical illustration of Nonlinear Programming Problems, Types of Nonlinear Programming problems, One-variable Unconstrained Optimization, Multivariable Unconstrained Optimization, Karush-Kuhn-Tucker Conditions for Constrained Optimization, Quadratic Programming, Separable Programming, Convex Programming and Non-Convex Programming.

UNIT IV: Queuing Theory – Basic Structure of Queuing Models, Examples of Real queuing Systems, Role of Exponential Distribution, Birth-and Death Process based on Queuing Models, Models involving Non-Exponential Distributions, Priority – Discipline Queuing Models and Queuing networks.

Applications of Queuing Theory – Examples, Decision Making, Formulation of Waiting Cost Functions and Decision Models.

UNIT V: Introduction to Simulation, Simulation examples, Random – Number generation, Random-Variate generation, Verification and Validation of Simulation Models, Output Analysis for a Single Model, Comparison and evaluation of Alternative System designs, Simulation Packages.

TEXT BOOKS:

1. Taha H.A., Operations Research: An Introduction, 7th Edition, Prentice-Hall of India, 2003. (For Unit II, Chapters 2,3,4,5,7 and S: for part of Unit I Chapter 14)
2. Frederick H.S. and Lieberman G.J. Introduction to Operations Research, 7th edition, Tata McGraw-Hill, 2002. (For part of Unit I chapter 2, for Unit III Chapter 13, and for Unit IV Chapters 17 and 18).
3. Banks, J, Carson II J. S., Nelson B.L., and Nicol D.M. Discrete – Event System Simulation. Pearson Education Asia, 3rd edition, 2002. (for Unit V Chapters 1,2,7,8,10,11 and 12; and Section 4.7).

MCA202 DATA STRUCTURES ALGORITHMS AND APPLICATIONS IN JAVA (2ND EDITION)

(With effect from the academic year 2008-09)

UNIT-I

Java: Introduction – Structure of a Java Program – The Java Compiler and Virtual Machine – Documentation comments – Data types – Methods – Exceptions – Yours vary own data type – Access modiers – Inheritance and Methods – Overriding – Currency revisited – Defining an Exception class – Generic methods – Garbage collection – Recursion – Testing and Debugging – References and Selected readings.

Asymptotic Notation: Introduction - Asymptotic Notation - Asymptotic Mathematics (Optional) – Complexity analysis examples – Practical complexities – References and selected readings.

UNIT – II

Linear Lists – Array representation: Data Objects and structures – The Linear list data structures – Array representation – Vector representation – Singly Linked lists and Chains – Circular lists and Header Nodes – Doubly linked lists.

Arrays and Matrices: Array – Matrices – special Matrices – Space Matrices.

Stacks: Definition and Applications – The Abstract Data type – Array representation – Linked representation – applications – references and selected readings.

Sorting and searching techniques using java.

UNIT – III

Queues: Definition and Applications – the abstract data type – array representation – linked representation – applications – refernces and selected readings.

Binary Trees – Common Binary Tree operations – Binary tree traversal – The ADT Binary tree – The class linked binary tree – Applications – references and selected readings.

Priority Queues: Definition and applications – The abstract data type – Linear list – Heaps – Leftist trees – applications – references and selected readings.

UNIT – IV

Binary Search Trees: Definitions – Abstract Data types – Binary search tree operations and implementation – Binary search trees with duplicates – Indexed binary search trees – applications.

Balanced Search Trees: AVL trees – Red Black Trees – Splay trees – B – trees – References and selected readings.

UNIT – V

Graphs: Definitions – Applications and More Definitions – Properties – The ADT Graph – representation of unweighted graphs – representation of weighted graphs – Class implementations – Graph search methods – Applications revisited.

Text Book:

1. Sahni S, Data structures, Algorithms and Applications in JAVA McGraw Hill, 2000 (Chapters 5,6,7,8,9,10,12,13 and 15: Sections 16.1, 16.2 and 16.3)

References:

1. Drzdek A, Data Structures and Algorithms in C++, 2nd edition, Vikas pub. House 2000.
2. Samantha D, Classic Data structures, Prentice-Hall of India 2001.
3. Sahni S, Data Structures and Algorithms and Applications in C++, McGraw Hill, 2002.
4. Kanetkar Y.P, Data Structures through C++, BPB Pub., 2003.

5. D.s. Malik, Data Structures using C++, Thomson, India Edition, 2006.
6. Helfman G.L. Data Structures, Algorithms and Object – Oriented Programming Tata McGraw-Hill, 2002 (Chapters 1 and 14)
7. Tremblay J.P. and Sorenson P.G. Introduction to Data Structures and Applications, Tata McGraw-Hill, 1995 (Sections 6-1,6-2.1, and 6.22)

(Old)MCA 202: DATA STRUCTURES

UNIT I: Concept of Abstract Data Types (ADTs), Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data structures. Linear and Non-linear Structures.

Linear lists – ADT, Array and Linked representations, Simulated Pointers. Arrays – ADT. Mappings, Representations, Spares Matrices. Sets – ADT, Operations.

UNIT II: Stacks – Definition, ADT, Array and Linked representations, Implementations, and Applications. Queues – Definition, ADT, Array and Linked representations, Circular Queues, Dequeues, Implementations and Applications.

UNIT III: Binary Trees – Definition, Properties, Representation, ADT Implementations and Applications. Priority Queues – Definition, ADT, Heaps, Leftist Trees and Applications. Binary Search Trees (BST) – Definition, ADT, Operations and Implementations, BST with Duplicates, indexed BST and Applications.

UNIT IV: Balanced Search Tress – AVL, Red – Black and Splay Trees. Graphs – Problems, Representation, Basic Searching Techniques, Minimum Spanning Tree, Topological Sorting and Shortest Paths.

UNIT V: Sorting – Selection, Insertion, Shell, Bubble. Merge, Quick, Heap, Radix and Address Calculation Sorting Techniques. Searching – Sequential and Binary Searching.

TEXT BOOKS:-

1. Heilman G.L., Data Structures, Algorithms and Object – Oriented Programming, Tata McGraw – Hill, 2002. (Chapters 1 and 14).
2. Tremblay J. P., and Sorenson P.G., Introduction to Data Structures and Applications, Tata McGraw-Hill, 1995 (Sections 6-1, 6-2.1, and 6-22).
3. Sahni S, Data Structures, Algorithms and Applications in JAVA, McGraw-Hill, 2000. (Chapters 5,6,7,8,9,10,12,13, and 15: Sections 16.1., 16.2. and 16.3).

REFERENCES BOOKS:

1. Drzdek A, Data Structures and Algorithms in C++, 2nd edition, Vikas Publishing House, 2002.
2. Samantha D. Classic Data Structures, Prentice-Hall of India, 2001.
3. Sahni S, Data Structures, Algorithms and Applications in C++, McGraw-hill, 2002.
4. Kanetkar Y.P., Data Structures through C++, BPB Publications, 2003.
5. D.S. Malik, Data Structures Using C++, Thomson, India Edition 2006.

MCA 203: OPERATING SYSTEMS

UNIT I: Introduction to Operating Systems, Types of Operating Systems, Computing Environments, Computer system operation, I/O structure, and Hierarchy, Hardware protection, Network structure, Operating system components and services – system calls, Systems programs, System Structure, Virtual machines, System design and Implantation.

UNIT II: CPU Scheduling: Scheduling criteria, Scheduling Algorithms, Multiple processor Scheduling, Real-time scheduling.

Process Synchronization:- The critical-section problem, Synchronization hardware, Semaphores, Classic problems of Synchronization, Critical regions, Monitors. Operating System Synchronization, Atomic transactions.

Dead Locks: Deadlock characterization, Deadlock handling, Deadlock prevention, Deadlock avoidance, Deadlock detection, and Recovery.

UNIT III: Memory Management: Swapping, Contiguous memory allocation, Paging, Segmentation with paring Concept of Virtual memory Demand paging Page replacement, Allocation of frames, Thrashing. File System Interface & Implementation: File concept, Access methods, Directory structure, File System Mounting File sharing Protection, File system structure, and implementation, Directory implementation, Allocation methods. Free space management, Efficiency and performance, Recovery, Log-structured file system, NFS.

UNIT IV: I/O Systems: overview, I/O hardware, Application I/O interface, Kernel I/O subsystem, Transforming I/O to Hard ware operations, STREAMS, Performance of I/O.

Mass Storage Structure:- Disk Structure Disk Scheduling, Disk management, Swap-space Management, RAID Structure, Disk Attachment, Stable – Storage implementation, Tertiary – storage structure.

Distributed System Structure: Background, Topology, Network Types, Communication Protocols, Robustness, Design issues.

Protection: Goals, Domain of protection, Access matrix and implementation, Access rights, capability – based systems, Language – based protection.

UNIT V: The Security Problem: User authentication, program threats, system threats, security systems Facilities Intrusion detection, Cryptography, Computer – security classification. Linux system: History, Design principles, Kernel modules, process management, Scheduling Memory Management, File Systems, Input and output, IPC, Network structure, security.

WINDOWS 2000: History, Design principles, System components, Environmental subsystems, file system, Networking, Programming interface.

TEXT BOOKS:

1. Silberschatz A, Galvin P.B, and Gaghe G. Operating System Concepts, 6th edition, John Wiley, 2002.
2. Tenenbaum A.S., Modern Operating Systems, 2nd edition, Pearson Education, 2001.

REFERENCE BOOKS:

1. Dhamdhere D.M., Operating Systems – A concept based Approach, Tata McGraw-Hill, 2002.
2. Flym I M, and Mc Hoes A.M., Understanding Operating Systems, 3rd edition, Thomson Brooks/Cole, 2001.
3. Bhatt P.C.P., An Introduction to Operating Systems – Concepts and Practice, PHI, 2003.
4. Harris J.A., Operating Systems, Tata McGraw-Hill (Schaum's Outlines series), 2002.
5. Solomon D.A. and Russinovich M.E., Inside Microsoft Windows 2000, 3rd edition, Microsoft Press/WP Publishers & Distributors Pvt. Ltd., 2000.
6. Bach M.J., the Design of the Unix Operating System, PHI, 1986.

Note: Operating System concepts are to be discussed using examples from Unix/Linux and Windows 2000 Operating Systems.

MCA 204: FILE STRUCTURES

UNIT I: Introduction to the Design and Specification of File structures, of File structures, Fundamental File Structure Concepts.

UNIT II: Managing Files of Records, Organizing files for Performance, Indexing, Consequential Processing, Sorting of Large Files.

UNIT III: Multi-Level indexing, B-Trees, Indexed Sequential File access, Prefix B Trees, Hashing, Extendible Hasting.

UNIT IV: COBOL Fundamentals, Sequential File Processing, Sorting and Merging.

UNIT V: Indexed File Processing, Relative File Processing, Interactive Processing, Array Processing – Defining initializing, accessing, and searching of arrays, Report generation, Sub programs.

Text Books:

1. Folk M.J., Zoellick B, and Riccardi G, File Structures – an object oriented Approach with C++, Pearson Education, 1998. (for Units, I, II and III)
2. Stern N, and Stern R, Structured COBOL Programming, 7th edition, John Wiley, 1995.

MCA 205: ACCOUNTING AND FINANCILA MANAGEMENT

Unit I: Accounting Concepts – Double Entry System – Journal – Ledger – Trial Balance – Subsidiary Books – Final accounts

Unit II: Cost Accounting: Nature and significance – Cost classification and Analysis – Marginal Costing

Unit III: Budget – Budgetary control – standard costing – Finance Function

Unit IV: Financial Decision Making – Financial Analysis – Working Capital Management – Capital Budgeting.

Unit V: Funds flow Analysis – Cash flow Analysis - Ratio Analysis-

Text Books:

1. Rajeswara Rao K and Prasad G, Accounting & Finance (MCA), Jai Bharat Publishers, Guntur
2. Jain and Narang, *Accountany Vol.* Kalyani Publishers.
3. Jain and Narang, *Cost Accounting*, Kalyani Publishers.
4. Sharma R K, and Gupta S K, *Management Accounting*, Kalyani Publishers.

5. Pandey I M, *Financial Management*, Vikas Publication.

Reference Books:

1. Grewal Ts. *Introduction to Accountancy,* S Chand & Company Ltd, 1999.
2. Khan M K. and Jain P K, *Financial Management, 3rd* edition, Tata McGraw-Hill, 1999.
3. Van Horne J C, *Financial management and Policy,* 12th edition, PHI, 2002.
4. Khan M K, and Jain R K, *Management Accounting,* 3rd edition, Tata McGraw-Hill, 1999.

SEMESTER III

MCA 301: DATA BASE MANAGEMENT SYSTEMS

UNIT I : Introduction, Database- System Application – Purpose of Database Systems – View of Data – Database Languages – Relational Databases – Database Design – Object – based and Analysis – Database Architecture. Entity – Relationship mode: Structure of Relational Databases - . Relational Algebra Operations – Modification of the Database. **SQL :** Data Definition- Structure of SQL Queries- Set Operations- Aggregate Functions- Nested Subqueries- Complex Queries – SQL Data Types and Schemas- Integrity Constraints- Authorization- Embedded SQL- Dynamic SQL

UNIT II : The Entity – Relationship Model-Constraints-Entity-Relationship Diagrams, Design Issue-Weak Entity Sets-Database Design for Banking Enterprise- The Unified a Modeling Temporal Data- User Interfaces and Tools- Web interfaces to Database- Web Fundamentals-Servlets and JSP- Building Large Web Applications-Triggers-Authorization in SQL.

UNIT III: OBJECT- DATABASES AND XML: Complex Data Type-Structured Types and inheritance in SQL-Table Inheritance-Array and Multiset Types in SQL-Object-Identity and Reference Types in SQL-Implementing O-R Features-Persistent Programming Languages – Object-Oriented versus Object-Relational-Structure of XML Data-XML Document Schema-Querying and Transformation-Application Program Interfaces to XML-Storage of XML Data

UNIT IV: Query Processing: Measures of Query Cost-Selection Operation-Sorting-Joint Operation-Evaluation of Expressions-Query Optimization: Transformation of Relational Expressions-Estimating Statistics of Expression Results-Choice of Evaluation Plans.

UNIT V: Transactions: Transaction concept, Transaction State-Implementation of Atomicity and Durabiltiy-Concrrent Executions-Serializability-Recoverability-Implementation of Isoiaiton-Testing for Serializability, Concurrency

Control: Lock Based Protocols-Timestamp-Based Protocols-Validation-Based Protocols-Multiple Granularity-MUltiversion Schemes-Deadlock handling-Insert and Delete Operations-Weak Levels of Consistency-Concurrency in Index Structures, Recovery System: Failure Classificaiton-Storage Structure-Recovery and Atomicity-Log-Based Recovery-Recovery with Concurrent Transactions-Buficer Management-Failure with lose of Nonvolatile Storage-Advanced Recovery Techniques-Remote Backup Systems.

Text Book:

1. Silberschatz A. Korth H F, and Sudarsan S, *Database System Concepts*, 5th edition, McGraw-Hill 2002. (Chapters 1to 4, 6 to 10 and 13 to 17)

Reference Books:

1. Date C J, *An Introduciton to Database Systems, 7th edition, Pearson Educaiton, 2000.*
2. Elmasri R, and Navathe S B, *Fundamentals of Database Systems,* 4th edition, Pearson Education, 2004.
3. Ramakrishnan R, and Gehrke J, *Database Management Systems, 2nd edition, McGraw-Hill, 2000.*
4. *Mannino M V, Database Application Development and Design,* McGraw-Hill, 2001.

MCA 302: DATA COMMUNICAITON AND COMPUTER NETWORKS

UNIT – I : Introduction, Network models – Internet model, OSI model Physical Layer: Signails – Analog, Digital, Digital Transmission – Coding, Sampling, Analog Transmission – Modulation of digital and analog signal, Telephone modern, Multiplexing – FDM, WDM, TDM, Transmission Media – cable, wireless, Circuit switching and Telephone network, DSL Technology, Cable modern, SONET.

UNIT – II : Data Link Layer: Error detection and correction, Data link control and Protocols – Stop and wait, Go-back-n, Selective repeat, HDLC, Point to point access, Channelizaiton, LANS – Traditional Ethernet, Fast Ethernet, Gigabit Ethernet, Wireless LAN's – IEEE 802.11, Blue tooth, Connecting LANs – Connecting devices, Backbone networks, Virtual LANS, Cellular telephony, Satelite networks, Virtual circuit switching, Frame relay, ATM.

UNIT – III : Network Layer: Inter-networks, Addressing, Routing, Network layer Protocols – ARP, IP, JCMP. IPV6, Routing – Introduction, Unicast routing, Protocols – RIP, OSPF, BGP, Multicast Routing, Protocols – DVMRP, MOSPF, CBT, PIM.

UNIT – IV : Transport Layer: Process-to-Process Delivery, UDP, TCP, Data traffic, Congestion and Control, Quality of service (QOS) and techniques to improve QOS,

Integrated services, QOS in Switched networks. Security: Introduction. Symmetric-key cryptography, Public key cryptography, Message security, Digital signature, User authentication, Key management, Kerberos, IP level security: IPSEC, Transport layer security, Application layer security: PGP, Firewalls, Virtual private networks.

UNIT – V : Application Layer: Client-Server model, Socket interface Introduction to DNS, Distribution of name space, DNS in the Internet, Resolution, DDNS, Electronic mail, SMTP, File Transfer, FTP, HTTP, World Wide web, Multimedia fundamentals, Digitizing and compression of audio and video, streaming audio/video-strored and live, Real time interactive audio/video, Voice over IP.

Text Books:

1. Forouzan B A, *Data Communications and Networking,* 4th edition, Tata McGraw-Hill, 2007.
2. Tanenbaum A S, *Computer Networks,* 4th edition, Pearson Education, 2003.

Reference Books:

1. Stallings W, *Data and Computer Communications,* 7th edition, Pearson Education, 2004.
2. Gallo M A, and Hancock W M, *Computer Communications and Networking Technologies,* Thomson Brooks/Cole, 2002.
3. Comer D E, *Computer Networks – and Internets with Internet Applications,* 4th edition, Pearson Education, 2004.
4. Kutose J F, and Ross K W, *Computer Networking – A Top-down Approach Fealuring the Internet, Pearson Education, 2001.*
5. *Tomasi W, Introduction to Data Communications and Networking,* Pearson Education, 2004.

MCA 303: SOFTWARE ENGINEERING

UNIT – I Software Engineering – Introduciton, Generic view of process, models, an agile view of process. Software Engineering practice – Software Engineering, communication, planning, m0odeling, construction practices and deployment.

UNIT-II System Engineering – Computer-based systems, the system engineering Hierarchy, business process engineering, product engineering and system modeling. Building the analysis model – Requirement analysis, modeling approaches, data modeling. Behavioral model. The web engineering process, analysis models for web apps.

UNIT –III Design Engineering-Design process and quality, design concepts the design model, and pattern-used software design. Architectural design – Software architecture, data design, architectural styles and patterns, architectural design

mapping data flow into a software architecture. Component-level design-component, designing class-based components, conducting component-level design, object-constraint language, and design conventional components. Interface design – Design steps, web apps design issues and architecture design.

UNIT –IV Testing strategies – Strategies and issues, testing strategies for and object-oriented software. Validation testing and system testing. Software testing tactics – Fundamentals, black-box and white-box texting white-box testing basis path testing. Control structure testing, black-box testing, object-oriented testing methods. Testing methods applicable at the class level inter class testing case design. Testing for specialized environments, archirectures and applications, web application testing – concepts, tesing process, component level testing.

UNIT – V Product metrics – Software quality, framework, metrics for analysis model design model, source case and testing. Managing software projects – The management spectrum, the W^5 HH principle, metrics in process, software measurement, metrics for software quality integrating metrics within the software process. Estimation – observations, decomposition techniques, empirical models, estimation for object-oriented projects other estimation techniques, project scheduling, risk management, quality management, reengineering, change management, component-based development.

TEXT BOOK:

1. Roger, S, Pressman, Software Engineering, A Practitioner's Approach, Six Edition, McGraw-Hill, International Edition, 2005.

REFERENCE BOOKS:

1. James F Peters, Software Engineering, John Wiley
2. Ian Sommerville, Software Engineering, Pearson Education, 6th Edition.
3. Waruan S Jawadekar, Software Engineering, Tata McGraw Hill, 2004.
4. Carlo Ghezzi, Mehdi Jazayeri, Dino Manrioli, Fundamentals of Software Engineering, PHI, 2001
5. Pankaj Jalote, An Integrated approach to Software Engineering Narosa.

MCA 304: DESIGN AND ANALYSIS OF ALGORITHMS

UNIT I : Divide – and-Conquer and Greedy Methods.

UNIT II : Dynamic Programming; Basic Traversal and Search Technique.

UNIT III: Backtracking; and Branch-and Bound Technique.

UNIT IV: Lower bound Theory; NP-Hard and NP-Complete Problems

UNIT V: Mesh and Hypercube Algorithms.

TEXT BOOKS:

1. Eills Horowliz, Sartaj sahni and Sanguthevar Rajasekaran. Computer Algorithms Galgotia Publications, 1999.

Reference books:

1. RCT Lec, SS Teang, RC Change and YT Tsai, Introduction to the Design and Analysis of Algorithms, McGraw-Hill 2005.
2. R. Jhonsonbaugh and Mschaefer, Algorithms, Pearson education 2004.
3. A. Levitin, Introduction to the Design and Analysis of Algorithms, Pearson Education 2005.
4. TH Coremen, CE Leiserson and RL Rivest, Introduction to Algorithms, PHI
5. G. Brassed and P. Bratley, Fundamentals of Algorithms, PHI.

MCA 305: TECHNICAL COMMUNICATION AND COMPUTER ETHICS

UNIT I: Phonetics and Spoken English, The Phonemes, The Syllable, Prosodic Features. The sounds of English – Voweis and Consonants, Word Accent, Features of Connected Speech, Pronunciation, spelling, Suggestions for improvement of Indian English. Effective Speaking – Oral Presentations. Listening Comprehension. Reading Comprehension.

UNIT II: Introduction to Technical Writing – Objective of technical writing Audience Recognition and Involvement, Preparation of Resume, Techniques for writing effective E-mail. Writing User Manuals, Writing Technical Reports and Summaries.

UNIT III: Introduction to Computer Ethics – Policy vacuum, Moral and Legal issues, Computer Ethics Professional Ethics – Characteristics of professions, Conflicting Responsibilities, Code of Ethics and Professional conduct. Philosophical Ethics – Ethical Relativism, Utilitarianism, Rights individual and Social Policy Ethics.

UNIT IV: Ethics Online – Hacking and Hacker Ethics computer crime Netiquetie. Privacy – Computers and Privacy issue. Proposals for better Privacy Protection property Rights in Computer Software – Current Legal Protection. Software Piracy, The Moral question.

UNIT V: Accountability – Buying and Selling Software – Accountability issues, Social Change, Democratic values in the Internet, Freedom of Speech, Future issues. The Rights and Responsibilities of Engineers – Professional Responsibilities, Ethics and Rights Ethics in Research and Experimentation.

Text Books:

1. Gerson S.J., and Gerson S.M. Technical Writing – Process and product, 3rd edition, Pearson Education Asia, 2001.
2. Johnson D.G. Computer Ethics 3rd edition, Pearson Education Asia. 2001.

3. Bansal R.K. and Harrison J.B. Spoken English 2nd Edition, Orient Longman, 1994.
4. Fleddermann C.B. Engineering Ethics 2nd edition, Pearson Education 2004.

References Books:

1. Krishna Mohan, and Meenakshi Raman, Effective English Communciation, Tata McGray Hill, 2000.
2. Martin M.W. and Schinzunger R. Ethics in Engineering 3rd Edition Tata Mc-Gray-Hill, 1996.
3. Division of Humanities and Social Sciences, Anna University, English for Engineer and Technologists, Vols, 1and 2nd edition, Orient Longman, 2002.
4. NHT Ethics and Security Management on the Web, Prentice – Hall of India 2003.
5. Rutherford A.J. Basic Communication Skills for Technology 2nd edition Pearson Education Asia, 2001.

- Academic Calendar of the University

ACADEMIC SCHEDULE For 2008-2011 Batch						
I. ACADEMIC SCHEDULE						
Academic Year	2008-2009		2009-2010		2010-2011	
	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
Commencement of Class Work	1/9/2008	19/01/2009	1/7/2009	9/11/2009	29/03/2010	20/09/2010
Last day of Instruction	30/12/2008	16/05/2009	21/10/2009	11/3/2010	2/9/2010	6/1/2011
I Sessional Examinations	20/10/2008	2/3/2009	3/8/2009	21/12/2009	6/5/2010	Internal
	to	to	to	to	to	Vivo-Voce
	28/10/2008	10/3/2009	22/8/2009	29/12/2009	15/5/2010	
II Sessional Examinations	1/12/2008	20/4/2009	21/9/2009	15/2/2010	12/8/2010	3/1/2011
	to	to	to	to	to	to
	9/12/2008	28/4/2009	29/9/2009	24/2/2010	21/8/2010	6/1/2011
University Theory Examinations	1/1/2009	19/5/2009	23/10/2009	12/3/2010	6/9/2010	
	to	to	to	to	to	
	9/1/2009	27/5/2009	2/11/2009	22/3/2010	15/9/2010	
University Practical Examinations	10/1/2009	28/5/2009	3/11/2009	23/3/2010	16/9/2010	7/1/2011
	to	to	to	to	to	to
	12/1/2009	31/5/2009	5/11/2009	28/3/2010	19/9/2010	12/2/2011
VACATIONS						
Academic Year	2008-2009		2009-2010		2010-2011	
Dasara	5/10/2008 to 12/10/2008		To be announced later		To be announced later	
Pongal	13/1/2009 to 18/1/2009		9/1/2010 to 17/1/2010		To be announced later	
Summer	1/6/2009 to 30/6/2009		16/5/2010 to 30/6/2010		To be announced later	
II. UNIVERSITY EXAMINATIONS SCHEDULE						
Academic Year	2008-2009		2009-2010		2010-2011	
	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
Theory exams	1/1/2009	19/5/2009	23/10/2009	12/3/2010	6/9/2010	Project Viva Voce
	3/1/2009	21/5/2009	25/10/2009	15/3/2010	8/9/2010	
	5/1/2009	23/5/2009	28/10/2009	17/3/2010	10/9/2010	7/1/2011
	7/1/2009	25/5/2009	30/10/2009	19/3/2010	13/9/2010	to
	9/1/2009	27/5/2009	2/11/2009	22/3/2010	15/9/2010	12/1/2011
III. WORKING DAYS (MONTH-WISE)						
Academic year	2008-2009		2009-2010		2010-2011	
	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
	Sep, 08-24	Jan, 09-10	July,09-26	Nov,09-18	Mar,10 - 03	Project Work for 15 weeks
	Oct, 08-19	Feb,09-23	Aug,09-24	Dec,09-24	Apr,10 - 22	
	Nov,08-24	Mar,09-22	Sep,09-24	Jan, 10-17	May,10 - 12	
	Dec, 08-24	Apr,09-22	Oct, 09-16	Feb, 10-23	Jul,10 - 26	
		May,09-13		Mar,10-10	Aug,10 - 25	
					Sep,10 - 02	
Total	91	90	90	92	90	90

- Academic Time Table

MCA: I – SEMESTER

Period	1	2	3	4	5	
DAY	10.00-11.00	11.00-12.00	12.00-1.00	1.00-2.00	2.00-3.00	3.00
MON	SW-1 LAB PCH & ALP LAB			LUNCH	O&M	I
TUE	DM	IP	CO		P&S	O&
WED	IP	P&S	O&M		CO	D
THU	O&M	CO	IP		P&S	D
FRI	PCH & ALP LAB PROGRAMMING LAB				DM	P&
SAT	PROGRAMMING LAB SW-1 LAB					

Time Table in-Charge **HOD**

K.S.R.M. COLLEGE OF ENGINEERING :: KADAPA
DEPARTMENT OF MCA
TIME TABLE 2009-2010

MCA: III – SEMESTER

Period	1	2	3	4	5	6	
DAY	10.00-11.00	11.00-12.00	12.00-1.00	1.00-2.00	2.00-3.00	3.00-4.00	4
MON	SE LAB DBMS LAB			LUNCH	DAA	SE	
TUE	SE LAB DBMS LAB				DBMS	DCCN	
WED	SW 3 LAB				SE	DBMS	
THU	DAA	DCCN	SE		TCCE	DBMS	
FRI	DBMS	TCCE	DCCN		DAA	SE	

SAT	DCCN	DAA	TCCE	

DBMS: Database Management Systems : K. Saritha
DCCN: Data Communication and Computer Networks : G.B. Veeresh
SE : Software Engineering : Md. Rahmathulla
DAA : Design and Analysis of Algorithms : H. Madhusudhana Rao
TCCE : Technical Communication Computer Ethics : B.J. Job Karuna Sagar

Time Table in-Charge **HOD**

- Teaching Load of each Faculty

K.S.R.M. COLLEGE OF ENGINEERING :: KADAPA
DEPARTMENT OF MCA

Work Load 2009-10

S.No.	Name of the Staff	Paper Name	No. of Hours Allotted
1.	E.A. Swetha	DBMS DBMS Lab SW Lab 1	16
2.	M. Gowri Devi	DCCN SW lab3 PCH/W & ALP Lab	16
3.	V. Sirisha	SE SE Lab Programming Lab	16
4.	N. Nagamanikanta	DAA TCCE	08
5.	B. Naveen Kumar	DM SW Lab1 DBMS Lab	16
6.	P. Nageswara Reddy	CO PCH/W & ALP Lab SW Lab 3	16
7.	C. Gopal Reddy	IP Programming Lab SE Lab	16
8.	Mohammed Ali Sameeulla	P&S	

		O&M	08

- Internal Continuous Evaluation System and place

Master of Computer Applications
New Regulations – 2006
(With Effect from the Academic Year 2008-09)

The performance of the students in each semester shall be evaluated paper wise.

The distribution of marks between sessional work (based on internal assessment) and university examination will be as follows.

Paper Category	Sessional Marks	University exam marks
Theory	30	70
Seminar	50	--
Practicals	30	70
Minor Project Work	30	70
Major Project Work	100	200

In each semester there shall be two tests in each subject one in middle of the semester, and the other towards the end of the semester.

In each of theory subjects, the sessional marks will be based on the better of the two tests. In case of the practical subjects, the sessional marks will be awarded based on day-to-day class work and the test conducted at the end of the semester.

In case of seminars, the sessional marks shall be awarded based on the seminar material and presentation.

In case of Minor Project Work / Major Project Work, the sessional marks shall be awarded based on the work turned out and submitted in the form of a project report.

UNIVERSITY EXAMINATIONS :

- For each of the theory there shall be a comprehensive university examination of three hour duration at the end of semester.
- Question paper setting and valuation shall be done by external examiners from the panel approved by the respective Board of studies.
- For each Practical subject, the University examination shall be conducted by one internal examiner and one external examiner.
- Viva-voce Examination in Minor Project work shall be conducted by one internal examiner and one external examiner.
- Viva-voce Examination in Major Project work shall be conducted by a committee consisting of two external examiners and one internal examiner.
- The external examiners for Practical examinations and Viva-voce examinations of Minor/Major Project Work shall be appointed from among the panels submitted by the Chairman of the Board of studies.

- **Students assessment of Faculty, System in place: Nil**

12. ii) (b) Details of the Full Time Teaching Faculty exclusively appointed and working for the AICTE approved programs with designation, date of birth, qualification, along with class / division obtained, experience, data of joining and pay scale (Programme wise).

S. No.	Name(s) of the Teaching Faculty	Designation (lecturer/ Asst Professor, Professor)	Qualifications with field of specialization with class/division of passing			Date of Birth	Experience a)Teaching b) industry c)Research			Date of Joining the Institution	Gross total salary as on date with scale & Basic Pay	PAN Number	P.F. A/C NO
			UG	PG	Doctorate		a	b	c				
1	E.A. Swetha	Assistant Professor		MCA		26-08-1984				15-06-2009	Rs.8,000/-	-	-
2	M. Gowri Devi	Assistant Professor		MCA		13-02-1983				15-06-2009	Rs.8,000/-	-	-
3	V. Sirisha	Assistant Professor		MCA		09-06-1985				15-06-2009	Rs.8,000/-	-	-
4	N. Nagamani kanta	Assistant Professor		MCA		05-01-1982				15-06-2009	Rs.8,000/-	-	-
5	B. Naveen Kumar	Assistant Professor		MCA		18-07-1985				01-08-2009	Rs.8,000/-	-	-
6	P. Nageswara Reddy	Assistant Professor		MCA		05-05-1984				01-08-2009	Rs.8,000/-	-	-
7	C. Gopal Reddy	Assistant Professor		MCA		12-06-1985				01-08-2009	Rs.8,000/-	-	-
8	Mohammed Ali Sameeulla	Assistant Professor		MCA		29-11-1984				01-08-2009	Rs.8,000/-	-	-

FACULTY

13. Name : **E.A. Swetha**

14. Date of Birth : **26-08-1984**

15. Educational Qualification : **M.C.A**

16. Work Experience

Teaching	**: 8 M**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

17. Area of Specializations : **Nil**

18. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

19. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

20. Projects Carried out : **Nil**

21. Patents : **Nil**

22. Technology Transfer : **Nil**

23. Research Publications : **Nil**

24. No. of Books published with details : Nil

FACULTY

1. Name : **M. Gowri Devi**

13. Date of Birth : **13-02-1983**

14. Educational Qualification : **M.C.A**

15. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

16. Area of Specializations : **Nil**

17. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

18. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

19. Projects Carried out : **Nil**

20. Patents : **Nil**

21. Technology Transfer : **Nil**

22. Research Publications : **Nil**

23. No. of Books published with details : Nil

FACULTY

1. Name : V. Sirisha

24. Date of Birth : 09-06-1985

25. Educational Qualification : M.C.A

26. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

27. Area of Specializations : Nil

28. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

29. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

30. Projects Carried out : Nil

31. Patents : Nil

32. Technology Transfer : Nil

33. Research Publications : Nil

34. No. of Books published with details : Nil

FACULTY

1. Name : **N. Nagamaikanta**

35. Date of Birth : **05-01-1982**

36. Educational Qualification : **M.C.A**

37. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

38. Area of Specializations : **Nil**

39. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

40. Research guidance

		No. of papers published in	
Master's		**National Journals**	**: Nil**
Ph.D.		**International Journals**	**: Nil**
		Conferences	**: Nil**

41. Projects Carried out : **Nil**

42. Patents : **Nil**

43. Technology Transfer : **Nil**

44. Research Publications : **Nil**

45. No. of Books published with details : Nil

FACULTY

1. Name : B. Naveen Kumar

13. Date of Birth : 18-07-1985

14. Educational Qualification : M.C.A

15. Work Experience

Teaching	**: 6 M**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

16. Area of Specializations : Nil

17. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

18. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

19. Projects Carried out : Nil

20. Patents : Nil

21. Technology Transfer : Nil

22. Research Publications : Nil

23. No. of Books published with details : Nil

FACULTY

1. Name : **P. Nageswara Reddy**

13. Date of Birth : **05-05-1984**

14. Educational Qualification : **M.C.A**

15. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

16. Area of Specializations : **Nil**

17. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

18. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

19. Projects Carried out : **Nil**

20. Patents : **Nil**

21. Technology Transfer : **Nil**

22. Research Publications : **Nil**

23. No. of Books published with details : Nil

FACULTY

1. Name : C. Gopal Reddy

13. Date of Birth : 12-06-1985

14. Educational Qualification : M.C.A

15. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

16. Area of Specializations : Nil

17. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

18. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

19. Projects Carried out : Nil

20. Patents : Nil

21. Technology Transfer : Nil

22. Research Publications : Nil

23. No. of Books published with details : Nil

FACULTY

1. Name : **S. Md. Ali Sameeulla**

13. Date of Birth : **29-11-1984**

14. Educational Qualification : **M.C.A**

15. Work Experience

Teaching	**: Nil**
Research	**: Nil**
Industry	**: Nil**
Others	**: Nil**

16. Area of Specializations : **Nil**

17. Subjects teaching at Under Graduate Level : -
Post Graduate Level :

18. Research guidance

	No. of papers published in	
Master's	**National Journals**	**: Nil**
Ph.D.	**International Journals**	**: Nil**
	Conferences	**: Nil**

19. Projects Carried out : **Nil**

20. Patents : **Nil**

21. Technology Transfer : **Nil**

22. Research Publications : **Nil**

23. No. of Books published with details : Nil