



Sharda Education Society's

College Code : 11

Anand Vishwa Gurukul Senior Night College

of Commerce & Science

Affiliated To University of Mumbai

ISO 9001 : 2008 Certified

No. Aff.I/ICD/ 2014 - 15 / 29449, 09th July, 2014

Tel : 9987929008, Email us : avgsrcollege@gmail.com

University Circular on Tutorials in the Subjects of Business Communication and Mathematics and Statistics

UNIVERSITY OF MUMBAI

No.Aff./Recog./ 402 of 1998

CIRCULAR:-

In supersession of this office Circulars No.Aff./Recog./481. dated 26th October, 1998 and No.Aff./Recog./195, dated 1st April, 1985, the Management Council at its meeting held on 29th August, 1998, vide item No.37 considered the proposal which was placed before the Academic Council at its meeting held on 26th June, 1998, about the draft ordinance relating to the minimum number of students for practical works/tutorial works prescribed in the different subjects of the B.A., B.Sc. and B.Com. degree course and resolved as under :-

that the Ordinance relating to the minimum number of students for practical works/tutorial works be as under :-

0.3920 The following shall be the number of students in the batches for practical work/tutorial work for a division of 100 students :-

- | | |
|--|--|
| 1) For Practical work in the subjects other than the subjects of Biological Sciences | 2) For practical work in the subjects of Biological Sciences |
|--|--|

1st batch 1-25 students	1st batch 1-20 students
2nd batch 26-45 students	2nd batch 21-35 students
3rd batch 46-65 students	3rd batch 36-50 students
4th batch 66-85 students	4th batch 51-65 students
5th batch 86-100 students	5th batch 66-80 students
	6th batch 81-100 students

Note:-If the number of students in a division is in excess of 100 students, the 6th batch be opened only after admitting 20 students in the 5th batch.

Note:-If the number of students in a division is in excess of 100 students, the 6th batch will consist of 15 students only.

Notwithstanding what is stated in both the above notes, in case the additional batch consists of not more than 5 students, these students be accommodated in the earlier batch i.e. the last batch strength will be not more than 25 students in the subjects other than the subjects of

ask\letter



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Sample Notices of Tutorials for the Courses of Business Communications and Mathematics and Statistics



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Date: 30/10/2021

NOTICE

This is to inform all the students of F.Y.B.Com that tutorial lectures for Business Mathematics & Statistics and Business Communication have been scheduled after the regular lecture as per the following time-able:

	MON	TUE	WED	THUR	FRI	SAT
Mathematics & Statistics						
BATCH	1	2	3	4	5	6
ROLL. NO.	1-25	26-45	46-65	66-85	86-105	106-120
TIME	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm
Business Communication						
BATCH	1	2	3	4	5	6
ROLL. NO.	106-120	86-105	66-85	46-65	26-45	1-25
TIME	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm	8:10 pm – 9:00 pm

Attendance is compulsory for all students.



Harshala P. Likhite

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Sample Tutorial Sheets for the Courses of Business Communications and Mathematics and Statistics

BUSINESS MATHEMATICS & STATISTICS

Tutorial on Unit -1

- Q. 1) Reena invested in shares of a certain company of nominal value Rs.10. The company declared 7% dividend and she received a total dividend of Rs. 52.50. Find the number of shares she bought.
- Q.2) Anita invested Rs. 49,752 in equity shares of Rs. 100 each at market price of Rs. 162 each. After receiving 11% dividend, she sold shares at Rs. 180 each. She paid brokerage of 2% on each transaction. Find her percentage return.
- Q.3) Mr.Nene received Rs. 4,30,272 after selling shares of a company at market price of Rs. 720, through sharekhan Ltd., With brokerage @ 0.4%. The face value of the share is Rs. 10. Find the number of shares he sold.
- Q.4) Find the number of shares if the total dividend at 8% on the shares with face value Rs.10/- was Rs. 240.
- Q.5) Mr. Hosur purchased some units in open- end fund at Rs. 30/- and its NAV after 18 months was Rs. 45/- . Find the annualised change in NAV as a percentage.
- Q.6) Rohit invested Rs. 18,000 in a mutual fund on 3rd April, 2008 with NAV of Rs. 75.1092 and entry Load of 2.25% of the NAV. He sold all the units on 17th September, 2008 with NAV of Rs. 97.2516 without any exit load. Find his total gain and rate of return.




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BUSINESS MATHEMATICS & STATISTICS

Tutorial on Unit -2

- Q. 1) Find the number of ways of making 5 people sit on 3 chairs?
- Q.2) 'In how many ways can the letters of the word "MATHS" be arranged if no letter is to be repeated in the same word?
- Q.3) In how many ways can the letters of the word " FATHER " be arranged? How many of these words begin with A and end with R?
- Q.4) A box contains 6 white balls and 4 black balls. In how many ways can one select 3 white and 2 black balls from this box?
- Q.5) In how many ways can the letters of the word "MATHEMATICS" be arranged ?
- Q.6) A supreme court bench consists of 5 judges. Find the number of ways in which the bench can give a majority decision.
- Q.7) Find the number of ways in which 4 boys can be seated for a Lunch.
- Q.8) In how many ways can 4 boys be selected out of 7 boys?
- Q.9) In how many ways can 7 books be arranged on a bookshelf?
- Q.10) In how many ways can 2 students be selected for a student's committee out of 7 students?
- Q.11) Solve graphically the L.P.Problem. Minimize $Z = 10x + 5y$ subject to the constraints
 $2x - y \geq 1$, $x + y \geq 5$, $x \geq 0$, $y \geq 0$
- Q.12) A machine is used for producing two products A and B. Product A is produced by using 4 units of chemical salt and 2 units of chemical mixture. Product B is produced by using 2-unit chemical salt and 3 units of chemical mixture. Only 100 units of chemical salt and 1500 units of chemical mixture are available. The profit on product A is Rs. 30 and on B is Rs. 20 per unit. Formulate this L.P.P. to maximize the profit.




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BUSINESS MATHEMATICS & STATISTICS

Tutorial on Unit - 3

Q. 1) (1) Calculate arithmetic mean for following distribution:

x	12	14	16	18	20	22
f	5	10	15	12	8	3

Q.2) Write merits and demerits of arithmetic mean.

Q.3) Find Mode for the following data.

interval	2000-4000	4000-6000	6000-8000	8000-10000	10000-12000
Frequency	16	34	60	37	13

Q.4) Calculate Q_1 for the following data.

Class interval	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55
frequency	12	28	36	50	25	18	16	10	5

Q.5) The following data refers to the figures obtained in a recent market survey of one specific model of refrigerators. The average life of a refrigerator was found to be 5.12 years. Find the missing frequency of the class 6-8.

Life in years	0-2	2-4	4-6	6-8	8-10	10-12
Number of refrigerators	5	16	13	—	5	4

Q.6) Find mean deviation from mean for the following data representing ages of 7 children.

5, 6, 9, 11, 12, 13 and 14




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BUSINESS MATHEMATICS & STATISTICS

Tutorial on Unit - 4

Q. 1) A box contains 20 tickets numbered 1 to 20. A ticket is drawn at random from the box. Find the Probability that the number on the ticket drawn is (i) divisible by 3 (ii) divisible by 2 and 3 (iii) not divisible by 4 (iv) divisible by 9 (v) divisible by 3 or 5

Q.2) From a well-shuffled pack of cards, a card is drawn at random, find the Probability that the card drawn is (i) red picture card (ii) a diamond card (iii) a queen card (iv) card which is perfect square (v) a queen of black cards.

Q.3) Two fair dice are rolled. If X denotes the sum of the numbers appearing on the Uppermost part of the dice, find (i) $P(X < 3)$ (ii) $P(X \geq 8)$

Q.4) If two fair dice are rolled, find the probability that the sum of the numbers appearing on the uppermost faces of the dice is (i) greater than 9 (ii) less than or equal to 7

Q.5) For the following probability distribution, find $E(X)$

X	-2	-1	0	1	2	3
P(x)	0.1	0.2	0.2	0.3	0.15	0.05

Q.6) If X is a random variable having probability mass function

$$P(X = x) = \frac{4}{15}; \quad x = -1, 0, 1$$

$$= \frac{kx}{15}; \quad x = 2$$

$$= \frac{1}{30}; \quad x = 3, 4$$

Find the value of k and $E(X)$.

Q.7) Two fair dice are rolled. If X denotes the sum of the numbers appearing on the uppermost faces of the dice, find (i) $P(X < 4)$ (ii) $P(X \geq 10)$




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BUSINESS MATHEMATICS & STATISTICS

Tutorial on Unit - 5

Q. 1) Given the following pay-off table, decide the best decision using the criteria

(i) Maximin criterion (ii) Maximax criterion

Course of action	States of Nature		
	S ₁	S ₂	S ₃
A ₁	2500	2500	2500
A ₂	4000	3500	2000
A ₃	2500	2000	1200

Q.2) Compute the standard deviation for the following data.

X	100	102	104	106	108	110	112
f	05	11	07	09	13	10	12

Q.3) Explain the following criterion:- (a) Maximax criterion (b) Mimimax Criterion

Q.4) Given the following pay-off table, decide the best decision using the criteria

(i) Maximin (ii) Maximax

Course of action	States of Nature		
	S ₁	S ₂	S ₃
A ₁	25	85	95
A ₂	40	0	60
A ₃	65	30	55

Q.5) Represent the inequality $3x + 4y > 12$ graphically.

Q.6) If X is a random variable having probability mass function

$$P(X = x) = \frac{5}{16}; \quad x = 0, 1$$

$$= \frac{1}{8}; \quad x = 2$$

$$= \frac{1}{4}; \quad x = 3$$

$$= 0; \quad \text{otherwise}$$

Find the value of E(X) and V(X)




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University Circular on Project Work for Foundation Course Paper – I, II, III and IV

University of Mumbai



No.UG /ICD/2016-17/276

Mumbai - 400 032

21st October, 2016

To,
The Principals of the affiliated Colleges in Arts, Science & Commerce.

Sub :- Assignment and evaluation of the project work.

Ref :- University Circular Nos :-

1) UG/06 of 2014, dated 23rd June, 2014

2) UG/35 of 2015, dated 30th July, 2015

And

3) UG/76 of 2016-17, dated 3rd October, 2016

Sir / Madam,

With reference to the Circulars above, every students will be assigned a project for the Skill enhancement course i.e. Foundation Course, Foundation course in National Service Scheme (NSS), Foundation Course in National Cadet Corps (NCC), Foundation Course in Extension Activity, Foundation Course in Physical Education (Phys Ed). The project will be evaluated on the basis of project report and the presentation made by the students.

It is suggested that such project may be assigned to the students in the Diwali Vacation, if project are not submit till date and may be evaluated after the vacation period for the first semester examination of the academic year 2016- 17.

I/C PRINCIPAL

ANAND VISHWA GURUKUL SR (NIGHT) COLLEGE, THANE

Yours faithfully,

Assistant Registrar
(UG & PG Section)

No. UG / 276 - A of 2016

MUMBAI-400 032

21st October, 2016

Copy forwarded with Compliments for information to:-

1. The Deans, faculties of Arts, Science & Commerce,
2. The Professor-cum-Director, Institute of Distance & Open Learning (IDOL)
3. The Director, Board of College and University Development,
4. The Co-Ordinator, University Computerization Centre,
5. The Controller of Examinations.

Assistant Registrar
(UG & PG Section)

AC 24-06-2016

Item No. 4.76

University of Mumbai



Bachelor of Commerce (B.Com) Programme Three Year Integrated Programme- Six Semesters *Course Structure*

Under Choice Based Credit System

**To be implemented from Academic Year- 2016-2017
Progressively**

Faculty of Commerce



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ANAND VISHWA GURUKUL SR (NGHT) COLLEGE, THANE

**Revised Syllabus of Courses of B.Com. Programme at Semester I
with Effect from the Academic Year 2016-2017**

Skill Enhancement Courses (SEC)

6. Foundation Course - I

Modules at a Glance

Sr. No.	Modules	No. of Lectures
1	Overview of Indian Society	05
2	Concept of Disparity- 1	10
3	Concept of Disparity-2	10
4	The Indian Constitution	10
5	Significant Aspects of Political Processes	10
Total		45



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Sr. No.	Modules / Units
1	Overview of Indian Society
	Understand the multi-cultural diversity of Indian society through its demographic composition: population distribution according to religion, caste, and gender; Appreciate the concept of linguistic diversity in relation to the Indian situation; Understand regional variations according to rural, urban and tribal characteristics; Understanding the concept of diversity as difference
2	Concept of Disparity- 1
	Understand the concept of disparity as arising out of stratification and inequality; Explore the disparities arising out of gender with special reference to violence against women, female foeticide (declining sex ratio), and portrayal of women in media; Appreciate the inequalities faced by people with disabilities and understand the issues of people with physical and mental disabilities
3	Concept of Disparity-2
	Examine inequalities manifested due to the caste system and inter-group conflicts arising thereof; Understand inter-group conflicts arising out of communalism; Examine the causes and effects of conflicts arising out of regionalism and linguistic differences
4	The Indian Constitution
	Philosophy of the Constitution as set out in the Preamble; The structure of the Constitution-the Preamble, Main Body and Schedules; Fundamental Duties of the Indian Citizen; tolerance, peace and communal harmony as crucial values in strengthening the social fabric of Indian society; Basic features of the Constitution
5	Significant Aspects of Political Processes
	The party system in Indian politics; Local self-government in urban and rural areas; the 73rd and 74th Amendments and their implications for inclusive politics; Role and significance of women in politics

Topics for Project Guidance: Growing Social Problems in India:

- Substance abuse- impact on youth & challenges for the future
- HIV/AIDS- awareness, prevention, treatment and services
- Problems of the elderly- causes, implications and response
- Issue of child labour- magnitude, causes, effects and response
- Child abuse- effects and ways to prevent
- Trafficking of women- causes, effects and response

Note:

Out of the 45 lectures allotted for 5 units for Semester I, about 15 lectures may be allotted for project guidance



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University of Mumbai



**Revised Syllabus
and
Question Paper Pattern
of Courses of
Bachelor of Commerce Programme
Second Year
Semester III and IV**

**Under Choice Based Credit, Grading and
Semester System**

To be implemented from Academic Year 2017-2018

Faculty of Commerce

**Revised Syllabus of Courses of B.Com. Programme at Semester III
with Effect from the Academic Year 2017-2018**

**2 Ability Enhancement Courses (AEC)
2B * Skill Enhancement Courses (SEC) Group B**

6. Foundation Course- Contemporary Issues- III

Modules at a Glance

Sr. No.	Modules	No. of Lectures
1	Human Rights Provisions, Violations and Redressal	12
2	Dealing With Environmental Concerns	11
3	Science and Technology I	11
4	Soft Skills for Effective Interpersonal Communication	11
Total		45


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Sr. No.	Modules / Units
1	<p>Human Rights Violations and Redressal</p> <p>A. Scheduled Castes- Constitutional and legal rights, Forms of violations, Redressal mechanisms. (2 Lectures)</p> <p>B. Scheduled tribes- Constitutional and legal rights, Forms of violations, Redressal mechanisms. (2 Lectures)</p> <p>C. Women- Constitutional and legal rights, Forms of violations, Redressal mechanisms. (2 Lectures)</p> <p>D. Children- Constitutional and legal rights, Forms of violations, Redressal mechanisms. (2 Lectures)</p> <p>E. People with Disabilities, Minorities, and the Elderly population- Constitutional and legal rights, Forms of violations, Redressal mechanisms. (4 Lectures)</p>
2	<p>Dealing With Environmental Concerns</p> <p>A. Concept of Disaster and general effects of Disasters on human life- physical, psychological, economic and social effects. (3 Lectures)</p> <p>B. Some locally relevant case studies of environmental disasters. (2 Lectures)</p> <p>C. Dealing with Disasters - Factors to be considered in Prevention, Mitigation (Relief and Rehabilitation) and disaster Preparedness. (3 Lectures)</p> <p>D. Human Rights issues in addressing disasters- issues related to compensation, equitable and fair distribution of relief and humanitarian approach to resettlement and rehabilitation. (3 Lectures)</p>
3	<p>Science and Technology – I</p> <p>A. Development of Science- the ancient cultures, the Classical era, the Middle Ages, the Renaissance, the Age of Reason and Enlightenment. (3 Lectures)</p> <p>B. Nature of science- its principles and characteristics; Science as empirical, practical, theoretical, validated knowledge. (2 Lectures)</p> <p>C. Science and Superstition- the role of science in exploding myths, blind beliefs and prejudices; Science and scientific temper- scientific temper as a fundamental duty of the Indian citizen. (3 Lectures)</p> <p>D. Science in everyday life- technology, its meaning and role in development; Interrelation and distinction between science and technology. (3 Lectures)</p>
4	<p>Soft Skills for Effective Interpersonal Communication</p> <p>Part A (4 Lectures)</p> <p>I) Effective Listening - Importance and Features.</p> <p>II) Verbal and Non-Verbal Communication; Public-Speaking and Presentation Skills.</p> <p>III) Barriers to Effective Communication; Importance of Self-Awareness and Body Language.</p> <p>Part B (4 Lectures)</p> <p>I) Formal and Informal Communication - Purpose and Types.</p> <p>II) Writing Formal Applications, Statement of Purpose (SOP) and Resume.</p> <p>III) Preparing for Group Discussions, Interviews and Presentations.</p> <p>Part C (3 Lectures)</p> <p>I) Leadership Skills and Self-Improvement - Characteristics of Effective Leadership.</p> <p>II) Styles of Leadership and Team-Building.</p>



References

1. Asthana, D. K., and Asthana, Meera, *Environmental Problems and Solutions*, S. Chand, New Delhi, 2012.
2. Bajpai, Asha, *Child Rights in India*, Oxford University Press, New Delhi, 2010.
3. Bhatnagar Mamta and Bhatnagar Nitin, *Effective Communication and Soft Skills*, Pearson India, New Delhi, 2011.
4. G Subba Rao, *Writing Skills for Civil Services Examination*, Access Publishing, New Delhi, 2014
5. Kaushal, Rachana, *Women and Human Rights in India*, Kaveri Books, New Delhi, 2000.
6. Mohapatra, Gaur Krishna Das, *Environmental Ecology*, Vikas, Noida, 2008.
7. Motilal, Shashi, and Nanda, Bijoy Lakshmi, *Human Rights: Gender and Environment*, Allied Publishers, New Delhi, 2007.
8. Murthy, D. B. N., *Disaster Management: Text and Case Studies*, Deep and Deep Publications, New Delhi, 2013.
9. Parsuraman, S., and Unnikrishnan, ed., *India Disasters Report II*, Oxford, New Delhi, 2013
10. Reza, B. K., *Disaster Management*, Global Publications, New Delhi, 2010.
11. Sathe, Satyaranjan P., *Judicial Activism in India*, Oxford University Press, New Delhi, 2003.
12. Singh, Ashok Kumar, *Science and Technology for Civil Service Examination*, Tata McGraw Hill, New Delhi, 2012.
13. Thorpe, Edgar, *General Studies Paper I Volume V*, Pearson, New Delhi, 2017.


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Projects / Assignments (for Internal Assessment)

- i. Projects/Assignments should be drawn for the component on Internal Assessment from the topics in **Module 1 to Module 4**.
- ii. Students should be given a list of possible topics - at least 3 from each Module at the beginning of the semester.
- iii. The Project/Assignment can take the form of Street-Plays / Power-Point Presentations / Poster Exhibitions and similar other modes of presentation appropriate to the topic.
- iv. Students can work in groups of not more than 8 per topic.
- v. Students must submit a hard / soft copy of the Project / Assignment before appearing for the semester end examination.

QUESTION PAPER PATTERN (Semester III)

The Question Paper Pattern for Semester End Examination shall be as follows:

TOTAL MARKS: 75

DURATION: 150 MINUTES

QUESTION NUMBER	DESCRIPTION	MARKS ASSIGNED
1	<p>i. Question 1 A will be asked on the meaning / definition of concepts / terms from all Modules.</p> <p>ii. Question 1 B will be asked on the topic of the Project / Assignment done by the student during the Semester</p> <p>iii. In all 8 Questions will be asked out of which 5 have to be attempted.</p>	<p>a) Total marks: 15</p> <p>b) For 1 A, there will be 3 marks for each sub-question.</p> <p>c) For 1 B there will be 15 marks without any break-up.</p>
2	Descriptive Question with internal option (A or B) on Module 1	15
3	Descriptive Question with internal option (A or B) on Module 2	15
4	Descriptive Question with internal option (A or B) on Module 3	15
5	Descriptive Question with internal option (A or B) on Module 4	15



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**Revised Syllabus of Courses of B.Com. Programme at Semester IV
with Effect from the Academic Year 2017-2018**

**2 Ability Enhancement Courses (AEC)
2B * Skill Enhancement Courses (SEC) Group B**

6. Foundation Course- Contemporary Issues- IV

Modules at a Glance

Sr. No.	Modules	No. of Lectures
1	Significant, Contemporary Rights of Citizens	12
2	Approaches to understanding Ecology	11
3	Science and Technology –II	11
4	Introduction to Competitive Exams	11
Total		45


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Sr. No.	Modules / Units
1	Significant, Contemporary Rights of Citizens
	<p>A. Rights of Consumers-Violations of consumer rights and important provisions of the Consumer Protection Act, 2016; Other important laws to protect consumers; Consumer courts and consumer movements. (3 Lectures)</p> <p>B. Right to Information- Genesis and relation with transparency and accountability; important provisions of the Right to Information Act, 2005; some success stories. (3 Lectures)</p> <p>C. Protection of Citizens'/Public Interest-Public Interest Litigation, need and procedure to file a PIL; some landmark cases. (3 Lectures)</p> <p>D. Citizens' Charters, Public Service Guarantee Acts. (3 Lectures)</p>
2	Approaches to understanding Ecology
	<p>A. Understanding approaches to ecology- Anthropocentrism, Biocentrism and Eco centrism, Ecofeminism and Deep Ecology. (3 Lectures)</p> <p>B. Environmental Principles-1: the sustainability principle; the polluter pays principle; the precautionary principle. (4 Lectures)</p> <p>C. Environmental Principles-2: the equity principle; human rights principles; the participation principle. (4 Lectures)</p>
3	Science and Technology –II
	<p>Part A:Some Significant Modern Technologies, Features and Applications (7 Lectures)</p> <p>i. Laser Technology- Light Amplification by Stimulated Emission of Radiation; use of laser in remote sensing, GIS/GPS mapping, medical use.</p> <p>ii. Satellite Technology- various uses in satellite navigation systems, GPS, and imprecise climate and weather analyses.</p> <p>iii. Information and Communication Technology- convergence of various technologies like satellite, computer and digital in the information revolution of today's society.</p> <p>iv. Biotechnology and Genetic engineering- applied biology and uses in medicine, pharmaceuticals and agriculture; genetically modified plant, animal and human life.</p> <p>v. Nanotechnology- definition: the study, control and application of phenomena and materials at length scales below 100 nm; uses in medicine, military intelligence and consumer products.</p> <p>Part B:Issues of Control, Access and Misuse of Technology. (4 Lectures)</p>



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Sr. No.	Modules / Units
4	Introduction to Competitive Exams
	<p>Part A. Basic information on Competitive Examinations- the pattern, eligibility criteria and local centres:</p> <ul style="list-style-type: none"> i. Examinations conducted for entry into professional courses - Graduate Record Examinations (GRE), Graduate Management Admission Test (GMAT), Common Admission Test (CAT) and Scholastic Aptitude Test (SAT). ii. Examinations conducted for entry into jobs by Union Public Service Commission, Staff Selection Commission (SSC), State Public Service Commissions, Banking and Insurance sectors, and the National and State Eligibility Tests (NET / SET) for entry into teaching profession. <p>Part B. Soft skills required for competitive examinations- (7 Lectures)</p> <ul style="list-style-type: none"> i. Information on areas tested: Quantitative Ability, Data Interpretation, Verbal Ability and Logical Reasoning, Creativity and Lateral Thinking ii. Motivation: Concept, Theories and Types of Motivation iii. Goal-Setting: Types of Goals, SMART Goals, Stephen Covey's concept of human endowment iv. Time Management: Effective Strategies for Time Management v. Writing Skills: Paragraph Writing, Report Writing, Filing an application under the RTI Act, Consumer Grievance Letter.



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References

1. Asthana, D. K., and Asthana, Meera, *Environmental Problems and Solutions*, S. Chand, New Delhi, 2012.
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10. Reza, B. K., *Disaster Management*, Global Publications, New Delhi, 2010.
11. Sathe, Satyaranjan P., *Judicial Activism in India*, Oxford University Press, New Delhi, 2003.
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Projects / Assignments (for Internal Assessment)

- i. Projects/Assignments should be drawn for the component on Internal Assessment from the topics in **Module 1 to Module 4**.
- ii. Students should be given a list of possible topics - at least 3 from each Module at the beginning of the semester.
- iii. The Project/Assignment can take the form of Street-Plays / Power-Point Presentations / Poster Exhibitions and similar other modes of presentation appropriate to the topic.
- iv. Students can work in groups of not more than 8 per topic.
- v. Students must submit a hard / soft copy of the Project / Assignment before appearing for the semester end examination.

QUESTION PAPER PATTERN (Semester III)

The Question Paper Pattern for Semester End Examination shall be as follows:

TOTAL MARKS: 75

DURATION: 150 MINUTES

QUESTION NUMBER	DESCRIPTION	MARKS ASSIGNED
1	i. Question 1 A will be asked on the meaning / definition of concepts / terms from all Modules. ii. Question 1 B will be asked on the topic of the Project / Assignment done by the student during the Semester iii. In all 8 Questions will be asked out of which 5 have to be attempted.	a) Total marks: 15 b) For 1 A, there will be 3 marks for each sub-question. c) For 1 B there will be 15 marks without any break-up.
2	Descriptive Question with internal option (A or B) on Module 1	15
3	Descriptive Question with internal option (A or B) on Module 2	15
4	Descriptive Question with internal option (A or B) on Module 3	15
5	Descriptive Question with internal option (A or B) on Module 4	15



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Sample Notices of Project Work for Foundation Course (Paper I, II, III and IV)



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Date: 01.11.2021

NOTICE

All the students in the First Year and Second Year have to submit the project for the Foundation Course subject as per the topics allotted to you in the following list. Students must follow the guidelines while preparing the project.

First Year Bachelor of Commerce (Banking and Insurance)

Roll No.	Name of the Project
1-7	Women Status in Society
8-12	Problem of Illiteracy
13-18	Socio-economic Problems of Women in India
19-23	Linguistic Diversity in India
24-27	Socio-economic Problems of Women in India

First Year Bachelor of Commerce (Accounting and Finance)

Roll No.	Name of the Project
1-13	Prevention and Remedial Measures for Tobacco and Smoking
14-24	Causes and Effects of Alcoholism
25-38	Causes of Gender Disparity
39-50	Preventive Measures for Violence against Women
51-64	Women Rights in India
65-80	Social Ignorance of Disabled People
81-88	Causes and Effects of Drugs Addiction
89-95	Causes and Effects of Tobacco

First Year Bachelor of Commerce

Roll No.	Name of the Project
1-16	Substance Abuse - Impact on Youth and Challenges for the Future
17-31	HIV/AIDS- Awareness, Prevention, Treatment and Services
32-46	Problem of the Elderly - Causes, Implications and Responses
47-59	Issue of Child labour- Magnitude, Causes, Effects and Responses
60-68	Child Abuse -Effects and Ways to Prevent
69-81	Trafficking of Women - Causes, Effects and Responses
82-93	Substance Abuse - Impact on Youth and Challenges for the Future
94-104	HIV/AIDS- Awareness, Prevention, Treatment and Services
105-114	Problem of the Elderly - Causes, Implications and Responses
115-120	Child Abuse -Effects and Ways to Prevent

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First Year Bachelor of Management Studies

Roll No.	Name of the Project
1-7	Remedial Measures for Physical Disability
8-17	Types and Causes of Visually Handicapped
18-26	Types and Causes of Hearing Impairment
27-35	Types and Causes of Mental Disability
36-44	Causes and Effects of Child Labour
45-52	Causes and Effect of Women Trafficking
53-60	Preventive Measures against Women Trafficking

Second Year Bachelor of Commerce (Banking and Insurance)

Roll No.	Name of the Project
1-7	Use of Laser in Remote Sensing
8-14	GIS/GPS Mapping
15-19	Various Uses in Satellite Navigation systems

Second Year Bachelor of Commerce (Accounting and Finance)

Roll No.	Name of the Project
1-9	Use in Medicine, Military Intelligence and Consumer Products
10-17	Disaster and Related Problems
18-25	Importance of Communication in Daily Life
26-34	Some Locally Relevant Case Studies of Environmental Disasters
35-44	Schedule Tribe: Constitutional and Legal Rights, Forms of Violations.
45-51	Smart Phones a Boon or Bane?
52-58	Disaster, Types and Migration Process

Second Year Bachelor of Commerce

Roll No.	Name of the Project
1-6	Study on Indian Superstition
7-12	Study on Indian Myth
13-18	Study on Local Disaster
19-24	Cause of Pollution in Mumbai City
25-30	A Study on Cyber Crime
31-36	A Study on Youth Related Problems
37-42	Social Networking Sites and its Impact on Youth
43-50	Digital Media
51-56	A Study on Misuse of Cell Phones

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57-65	Critically Endangered Animals in India
66-73	Globally Endangered Species
74-81	Study on Indian Superstition
82-90	Study on Indian Myth
91-106	A Study on Cyber crime
107-113	A Study on Youth Related Problems
114-118	Social Networking Sites and its Impact on Youth

Second Year Bachelor of Management Studies

Roll No.	Name of the Project
1-9	Fundamental Rights of Indian Citizens
10-18	Disaster Management in India
19-27	Smart Phones a Boon or Bane?
28-35	Importance of Communication in Daily Life
36-44	Importance of Personality Development
45-52	Disaster, Types and Migration Process
53-63	Relevance of Myths and Superstition in 21st Century


Prof-in-charge




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Sharda Education Society's

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University Circular on Computer Practicals for Bachelor of Science (Information Technology) (BSC-IT)

Academic Council 14/06/2018

Item No:4.49

UNIVERSITY OF MUMBAI



Syllabus for T.Y.B.Sc.

Programme: B.Sc.

Subject: Information Technology

(Choice Based Credit System)

(with effect from the academic year 2018 – 2019)



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Semester – 5			
Course Code	Course Type	Course Title	Credits
USIT501	Skill Enhancement Course	Software Project Management	2
USIT502	Skill Enhancement Course	Internet of Things	2
USIT503	Skill Enhancement Course	Advanced Web Programming	2
USIT504	Discipline Specific Elective (Any One)	Artificial Intelligence	2
USIT505		Linux System Administration	
USIT506	Discipline Specific Elective (Any One)	Enterprise Java	2
USIT507		Next Generation Technologies	
USIT5P1	Skill Enhancement Course Practical	Project Dissertation	2
USIT5P2	Skill Enhancement Course Practical	Internet of Things Practical	2
USIT5P3	Skill Enhancement Course Practical	Advanced Web Programming Practical	2
USIT5P4	Discipline Specific Elective Practical (Any One)*	Artificial Intelligence Practical	2
USIT5P5		Linux Administration Practical	
USIT5P6	Discipline Specific Elective Practical (Any One)*	Enterprise Java Practical	2
USIT5P7		Next Generation Technologies Practical	
Total Credits			20

(All the practical mentioned in the syllabi are compulsory as per the courses chosen)

Semester – 6			
Course Code	Course Type	Course Title	Credits
USIT601	Skill Enhancement Course	Software Quality Assurance	2
USIT602	Skill Enhancement Course	Security in Computing	2
USIT603	Skill Enhancement Course	Business Intelligence	2
USIT604	Discipline Specific Elective (Any One)	Principles of Geographic Information Systems	2
USIT605		Enterprise Networking	
USIT606	Discipline Specific Elective (Any One)	IT Service Management	2
USIT607		Cyber Laws	
USIT6P1	Skill Enhancement Course Practical	Project Implementation	2
USIT6P2	Skill Enhancement Course Practical	Security in Computing Practical	2
USIT6P3	Skill Enhancement Course Practical	Business Intelligence Practical	2
USIT6P4	Discipline Specific Elective Practical (Any One)*	Principles of Geographic Information Systems Practical	2
USIT6P5		Enterprise Networking Practical	
USIT6P6	Skill Enhancement Course Practical	Advanced Mobile Programming	2
Total Credits			20

*The choice of Practical course is based on the theory Course. For Semester V, USIT504, USIT505, USIT506 and USIT507, the practical courses are USIT5P4, USIT5P5, USIT5P6, USIT5P7. For Semester VI, USIT604, USIT605 the practical courses are USIT6P4, USIT6P5 respectively. Practical Course USIT6P6 is compulsory.



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B. Sc. (Information Technology)		Semester – V	
Course Name: Project Dissertation		Course Code: USIT5P1	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	--

Details of the Practicals:

B. Sc. (Information Technology)		Semester – V	
Course Name: Internet of Things Practical		Course Code: USIT5P2	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	--
Practical No	Details		
0	Starting Raspbian OS, Familiarising with Raspberry Pi Components and interface, Connecting to ethernet, Monitor, USB.		
1	Displaying different LED patterns with Raspberry Pi.		
2	Displaying Time over 4-Digit 7-Segment Display using Raspberry Pi		
3	Raspberry Pi Based Oscilloscope		
4	Controlling Raspberry Pi with WhatsApp.		
5	Setting up Wireless Access Point using Raspberry Pi		
6	Fingerprint Sensor interfacing with Raspberry Pi		
7	Raspberry Pi GPS Module Interfacing		
8	IoT based Web Controlled Home Automation using Raspberry Pi		
9	Visitor Monitoring with Raspberry Pi and Pi Camera		
10	Interfacing Raspberry Pi with RFID.		
11	Building Google Assistant with Raspberry Pi.		
12	Installing Windows 10 IoT Core on Raspberry Pi		

Raspberry Pi Kits and components should be made available in the ratio of 1 kit : 3 students minimum



B. Sc. (Information Technology)		Semester – V	
Course Name: Advanced Web Programming Practical		Course Code: USIT5P3	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	--
List of Practical			
1.	Working with basic C# and ASP .NET		
a.	Create an application that obtains four int values from the user and displays the product.		
b.	Create an application to demonstrate string operations.		
c.	Create an application that receives the (Student Id, Student Name, Course Name, Date of Birth) information from a set of students. The application should also display the information of all the students once the data entered.		
d.	Create an application to demonstrate following operations i. Generate Fibonacci series. ii. Test for prime numbers. iii. Test for vowels. iv. Use of foreach loop with arrays v. Reverse a number and find sum of digits of a number.		
2.	Working with Object Oriented C# and ASP .NET		
a.	Create simple application to perform following operations i. Finding factorial Value ii. Money Conversion iii. Quadratic Equation iv. Temperature Conversion		
b.	Create simple application to demonstrate use of following concepts i. Function Overloading ii. Inheritance (all types) iii. Constructor overloading iv. Interfaces		
c.	Create simple application to demonstrate use of following concepts i. Using Delegates and events ii. Exception handling		
3.	Working with Web Forms and Controls		
a.	Create a simple web page with various sever controls to demonstrate setting and use of their properties. (Example : AutoPostBack)		
b.	Demonstrate the use of Calendar control to perform following operations. a) Display messages in a calendar control b) Display vacation in a calendar control c) Selected day in a calendar control using style d) Difference between two calendar dates		
c.	Demonstrate the use of Treeview control perform following operations. a) Treeview control and datalist b) Treeview operations		
4.	Working with Form Controls		
a.	Create a Registration form to demonstrate use of various Validation controls.		
b.	Create Web Form to demonstrate use of Adrotator Control.		
c.	Create Web Form to demonstrate use User Controls.		



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5.	Working with Navigation, Beautification and Master page.
a.	Create Web Form to demonstrate use of Website Navigation controls and Site Map.
b.	Create a web application to demonstrate use of Master Page with applying Styles and Themes for page beautification.
c.	Create a web application to demonstrate various states of ASP.NET Pages.
6.	Working with Database
a.	Create a web application bind data in a multiline textbox by querying in another textbox.
b.	Create a web application to display records by using database.
c.	Demonstrate the use of Datalist link control.
7.	Working with Database
a.	Create a web application to display Databinding using dropdownlist control.
b.	Create a web application for to display the phone no of an author using database.
c.	Create a web application for inserting and deleting record from a database. (Using Execute-Non Query).
8.	Working with data controls
a.	Create a web application to demonstrate various uses and properties of SqlDataSource.
b.	Create a web application to demonstrate data binding using DetailsView and FormView Control.
c.	Create a web application to display Using Disconnected Data Access and Databinding using GridView.
9.	Working with GridView control
a.	Create a web application to demonstrate use of GridView control template and GridView hyperlink.
b.	Create a web application to demonstrate use of GridView button column and GridView events.
c.	Create a web application to demonstrate GridView paging and Creating own table format using GridView.
10.	Working with AJAX and XML
a.	Create a web application to demonstrate reading and writing operation with XML.
b.	Create a web application to demonstrate Form Security and Windows Security with proper Authentication and Authorization properties.
c.	Create a web application to demonstrate use of various Ajax controls.
11.	Programs to create and use DLL

B. Sc. (Information Technology)	Semester – V	
Course Name: Artificial Intelligence Practical	Course Code: USIT5P4 (Elective I)	
Periods per week (1 Period is 50 minutes)	3	
Credits	2	
	Hours	Marks



Evaluation System		Practical Examination	2½	50
		Internal	--	--
Practical No	Details			
1	a	Write a program to implement depth first search algorithm.		
	b	Write a program to implement breadth first search algorithm.		
2	a	Write a program to simulate 4-Queen / N-Queen problem.		
	b	Write a program to solve tower of Hanoi problem.		
3	a	Write a program to implement alpha beta search.		
	b	Write a program for Hill climbing problem.		
4	a	Write a program to implement A* algorithm.		
	b	Write a program to implement AO* algorithm.		
5	a	Write a program to solve water jug problem.		
	b	Design the simulation of tic – tac – toe game using min-max algorithm.		
6	a	Write a program to solve Missionaries and Cannibals problem.		
	b	Design an application to simulate number puzzle problem.		
7	a	Write a program to shuffle Deck of cards.		
	b	Solve traveling salesman problem using artificial intelligence technique.		
8	a	Solve the block of World problem.		
	b	Solve constraint satisfaction problem		
9	a	Derive the expressions based on Associative law		
	b	Derive the expressions based on Distributive law		
10	a	Write a program to derive the predicate, (for e.g.: Sachin is batsman , batsman is cricketer) - >Sachin is Cricketer.		
	b	Write a program which contains three predicates: male, female, parent. Make rules for following family relations: father, mother, grandfather, grandmother, brother, sister, uncle, aunt, nephew and niece, cousin. Question: i. Draw Family Tree. ii. Define: Clauses, Facts, Predicates and Rules with conjunction and disjunction		

The practicals can be implemented in C / C++ / Java/ Python / R /Prolog / LISP or any other language.

B. Sc. (Information Technology)		Semester – V	
Course Name: Linux System Administration		Course Code: USIT5P5 (Elective I)	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System		Practical Examination	2½
		Internal	--
Practical No	Details		
0	Installation of RHEL 6.X		
1	Graphical User Interface and Command Line Interface and Processes		



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a	Exploring the Graphical Desktop
b	The Command Line Interface
c	Managing Processes
2	Storage Devices and Links, Backup and Repository
b	Working with Storage Devices and Links
a	Making a Backup
b	Creating a Repository
3	Working with RPMs Storage and Networking
a	Using Query Options
b	Extracting Files From RPMs
c	Configuring and Managing Storage
d	Connecting to the Network
4	Working with Users, Groups, and Permissions
5	Firewall and Cryptographic services
a	Securing Server with iptables
b	Setting Up Cryptographic Services
6	Configuring Server for File Sharing
a	Configuring NFS Server and Client
b	Configuring Samba
c	Configuring FTP
7	DNS, DHCP and Mail Server
a	Configuring DNS
b	Configuring DHCP
c	Setting Up a Mail Server
8	Web Server
a	Configuring Apache on Red Hat Enterprise Linux
b	Writing a Script to Monitor Activity on the Apache Web Server
c	Using the select Command
9	Shell Scripts and High-Availability Clustering
a	Writing Shell Scripts
b	Configuring Booting with GRUB
c	Configuring High Availability Clustering
10	Setting Up an Installation Server
a	Configuring Network Server as an Installation Server
b	Setting Up a TFTP and DHCP Server for PXE Boot



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B. Sc. (Information Technology)		Semester – V	
Course Name: Enterprise Java		Course Code: USIT5P6 (Elective II)	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	--
List of Practical			
1. Implement the following Simple Servlet applications.			
a.	Create a simple calculator application using servlet.		
b.	Create a servlet for a login page. If the username and password are correct then itsays message "Hello <username>" else a message "login failed"		
c.	Create a registration servlet in Java using JDBC. Accept the details such as Username, Password, Email, and Country from the user using HTML Form and store the registration details in the database.		
2. Implement the following Servlet applications with Cookies and Sessions.			
a.	Using Request Dispatcher Interface create a Servlet which will validate the password entered by the user, if the user has entered "Servlet" as password, then he will be forwarded to Welcome Servlet else the user will stay on the index.html page and an error message will be displayed.		
b.	Create a servlet that uses Cookies to store the number of times a user has visitedservlet.		
c.	Create a servlet demonstrating the use of session creation and destruction. Also check whether the user has visited this page first time or has visited earlier also using sessions.		
3. Implement the Servlet IO and File applications.			
a.	Create a Servlet application to upload and download a file.		
b.	Develop Simple Servlet Question Answer Application using Database.		
c.	Create simple Servlet application to demonstrate Non-Blocking Read Operation.		
4. Implement the following JSP applications.			
a.	Develop a simple JSP application to display values obtained from the use of intrinsicobjects of various types.		
b.	Develop a simple JSP application to pass values from one page to another with validations. (Name-txt, age-txt, hobbies-checkbox, email-txt, gender-radio button).		
c.	Create a registration and login JSP application to register and authenticate the user based on username and password using JDBC.		
5. Implement the following JSP JSTL and EL Applications.			
a.	Create an html page with fields, eno, name, age, desg, salary. Now on submit thisdata to a JSP page which will update the employee table of database with matching eno.		
b.	Create a JSP page to demonstrate the use of Expression language.		
c.	Create a JSP application to demonstrate the use of JSTL.		



6.	Implement the following EJB Applications.
a.	Create a Currency Converter application using EJB.
b.	Develop a Simple Room Reservation System Application Using EJB.
c.	Develop simple shopping cart application using EJB [Stateful Session Bean].
7.	Implement the following EJB applications with different types of Beans.
a.	Develop simple EJB application to demonstrate Servlet Hit count using Singleton Session Beans.
b.	Develop simple visitor Statistics application using Message Driven Bean [StatelessSession Bean].
c.	Develop simple Marks Entry Application to demonstrate accessing Database usingEJB.
8.	Implement the following JPA applications.
a.	Develop a simple Inventory Application Using JPA.
b.	Develop a Guestbook Application Using JPA.
c.	Create simple JPA application to store and retrieve Book details.
9.	Implement the following JPA applications with ORM and Hibernate.
a.	Develop a JPA Application to demonstrate use of ORM associations.
b.	Develop a Hibernate application to store Feedback of Website Visitor in MySQL Database.
c.	Develop a Hibernate application to store and retrieve employee details in MySQL Database.
10.	Implement the following Hibernate applications.
a.	Develop an application to demonstrate Hibernate One- To -One Mapping Using Annotation.
b.	Develop Hibernate application to enter and retrieve course details with ORM Mapping.
c.	Develop a five page web application site using any two or three Java EETechnologies.

B. Sc. (Information Technology)		Semester – V	
Course Name: Next Generation Technologies Practical		Course Code: USIT5P7 (Elective II)	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System		Practical Examination	2½
		Internal	--
		Details	
Practical No			
1	MongoDB Basics		
a	Write a MongoDB query to create and drop database.		



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b	Write a MongoDB query to create, display and drop collection
c	Write a MongoDB query to insert, query, update and delete a document.
2	Simple Queries with MongoDB
3	Implementing Aggregation
a	Write a MongoDB query to use sum, avg, min and max expression.
b	Write a MongoDB query to use push and addToSet expression.
c	Write a MongoDB query to use first and last expression.
4	Replication, Backup and Restore
a	Write a MongoDB query to create Replica of existing database.
b	Write a MongoDB query to create a backup of existing database.
c	Write a MongoDB query to restore database from the backup.
5	Java and MongoDB
a	Connecting Java with MongoDB and inserting, retrieving, updating and deleting.
6	PHP and MongoDB
a	Connecting PHP with MongoDB and inserting, retrieving, updating and deleting.
7	Python and MongoDB
a	Connecting Python with MongoDB and inserting, retrieving, updating and deleting.
8	Programs on Basic jQuery
a	jQuery Basic, jQuery Events
b	jQuery Selectors, jQuery Hide and Show effects
c	jQuery fading effects, jQuery Sliding effects
9	jQuery Advanced
a	jQuery Animation effects, jQuery Chaining
b	jQuery Callback, jQuery Get and Set Contents
c	jQuery Insert Content, jQuery Remove Elements and Attribute
10	JSON
a	Creating JSON
b	Parsing JSON
c	Persisting JSON
11	Create a JSON file and import it to MongoDB
a	Export MongoDB to JSON.
b	Write a MongoDB query to delete JSON object from MongoDB



B. Sc. (Information Technology)		Semester – VI	
Course Name: Security in Computing Practical		Course Code: USIT6P2	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	-
Practical No	Details		
1	Configure Routers		
a	OSPF MD5 authentication.		
b	NTP.		
c	to log messages to the syslog server.		
d	to support SSH connections.		
2	Configure AAA Authentication		
a	Configure a local user account on Router and configure authenticate on the console and vty lines using local AAA		
b	Verify local AAA authentication from the Router console and the PC-A client		
3	Configuring Extended ACLs		
a	Configure, Apply and Verify an Extended Numbered ACL		
4	Configure IP ACLs to Mitigate Attacks and IPV6 ACLs		
a	Verify connectivity among devices before firewall configuration.		
b	Use ACLs to ensure remote access to the routers is available only from management station PC-C.		
c	Configure ACLs on to mitigate attacks.		
d	Configuring IPv6 ACLs		
5	Configuring a Zone-Based Policy Firewall		
6	Configure IOS Intrusion Prevention System (IPS) Using the CLI		
a	Enable IOS IPS.		
b	Modify an IPS signature.		
7	Layer 2 Security		
a	Assign the Central switch as the root bridge.		
b	Secure spanning-tree parameters to prevent STP manipulation attacks.		
c	Enable port security to prevent CAM table overflow attacks.		
8	Layer 2 VLAN Security		
9	Configure and Verify a Site-to-Site IPsec VPN Using CLI		
10	Configuring ASA Basic Settings and Firewall Using CLI		



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a	Configure basic ASA settings and interface security levels using CLI
b	Configure routing, address translation, and inspection policy using CLI
c	Configure DHCP, AAA, and SSH
d	Configure a DMZ, Static NAT, and ACLs

B. Sc. (Information Technology)		Semester – VI	
Course Name: Business Intelligence Practical		Course Code: USIT6P3	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System		Practical Examination	50
		Internal	-
Practical No	Details		
1	Import the legacy data from different sources such as (Excel , Sql Server, Oracle etc.)and load in the target system. (You can download sample database such as Adventure works, Northwind, foodmart etc.)		
2	Perform the Extraction Transformation and Loading (ETL) process to construct the database in the Sql server.		
3	a. Create the Data staging area for the selected database. b. Create the cube with suitable dimension and fact tables based on ROLAP, MOLAP and HOLAP model.		
4	a. Create the ETL map and setup the schedule for execution. b. Execute the MDX queries to extract the data from the datawarehouse.		
5	a. Import the data warehouse data in Microsoft Excel and create the Pivot table and Pivot Chart. b. Import the cube in Microsoft Excel and create the Pivot table and Pivot Chart to perform data analysis.		
6	Apply the what – if Analysis for data visualization. Design and generate necessary reports based on the data warehouse data.		
7	Perform the data classification using classification algorithm.		
8	Perform the data clustering using clustering algorithm.		
9	Perform the Linear regression on the given data warehouse data.		
10	Perform the logistic regression on the given data warehouse data.		

The BI tools such as Tableau / Power BI / BIRT / R / Excel or any other can be used.

B. Sc. (Information Technology)		Semester – VI	
Course Name: Principles of Geographical Information System Practical		Course Code: USIT6P4 (Elective II)	
Periods per week (1 Period is 50 minutes)		3	



Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	-
Practical No	Details		
0	Familiarizing Quantum GIS: Installation of QGIS, datasets for both Vector and Raster data, Maps.		
1	Creating and Managing Vector Data: Adding vector layers, setting properties, formatting, calculating line lengths and statistics		
2	Exploring and Managing Raster data: Adding raster layers, raster styling and analysis, raster mosaicking and clipping		
3	Making a Map, Working with Attributes, Importing Spreadsheets or CSV files Using Plugins, Searching and Downloading OpenStreetMap Data		
4	Working with attributes, terrain Data		
5	Working with Projections and WMS Data		
6	Georeferencing Topo Sheets and Scanned Maps Georeferencing Aerial Imagery Digitizing Map Data		
7	Managing Data Tables and Spatial data Sets: Table joins, spatial joins, points in polygon analysis, performing spatial queries		
8	Advanced GIS Operations 1: Nearest Neighbor Analysis, Sampling Raster Data using Points or Polygons, Interpolating Point Data		
9	Advanced GIS Operations 2: Batch Processing using Processing Framework Automating Complex Workflows using Processing Modeler Automating Map Creation with Print Composer Atlas		
10	Validating Map data		

B. Sc. (Information Technology)		Semester – VI	
Course Name: Advanced Networking Practical		Course Code: USIT6P5 (Elective II)	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	-



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Practical No	Details
1	Configuring OSPF – I
a	Single-Area OSPF Link Costs and Interface Priorities
b	Multi-Area OSPF with Stub Areas and Authentication
2	Configuring OSPF – II
a	OSPF Virtual Links and Area Summarization
b	OSPF over Frame Relay
3	Redistribution and Administrative Distances
a	Redistribution Between RIP and OSPF
b	Manipulating Administrative Distances
4	BGP
a	Configuring BGP with Default Routing
b	Using the AS_PATH Attribute
c	BGP Route Reflectors and Route Filters
5	IPv6
a	Configuring OSPF for IPv6
b	Configuring 6to4 Tunnels
6	VLANs and EtherChannel
a	Static VLANs, VLAN Trunking, and VTP Domains and Modes
b	Configuring EtherChannel
7	Spanning Tree Protocol
a	Spanning Tree Protocol (STP) Default Behavior
b	Modifying Default Spanning Tree Behavior
8	VLAN and Spanning Tree
a	Per-VLAN Spanning Tree Behavior
b	Multiple Spanning Tree
9	Internal VLAN Routing
a	Inter-VLAN Routing with an External Router
b	Inter-VLAN Routing with an Internal Route Processor
10	Configure NAT Services

B. Sc. (Information Technology)	Semester – VI
Course Name: Advanced Mobile Programming Practical	Course Code: USIT6P6
Periods per week (1 Period is 50 minutes)	3



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Credits		2	
Evaluation System	Practical Examination	Hours	Marks
	Internal	2½	50
Practical No	Details		
1	Introduction to Android, Introduction to Android Studio IDE, Application Fundamentals: Creating a Project, Android Components, Activities, Services, Content Providers, Broadcast Receivers, Interface overview, Creating Android Virtual device, USB debugging mode, Android Application Overview. Simple "Hello World" program.		
2	Programming Resources Android Resources: (Color, Theme, String, Drawable, Dimension, Image),		
3	Programming Activities and fragments Activity Life Cycle, Activity methods, Multiple Activities, Life Cycle of fragments and multiple fragments.		
4	Programs related to different Layouts Coordinate, Linear, Relative, Table, Absolute, Frame, List View, Grid View.		
5	Programming UI elements AppBar, Fragments, UI Components		
6	Programming menus, dialog, dialog fragments		
7	Programs on Intents, Events, Listeners and Adapters The Android Intent Class, Using Events and Event Listeners		
8	Programs on Services, notification and broadcast receivers		
9	Database Programming with SQLite		
10	Programming threads, handles and asynchronized programs		
11	Programming Media API and Telephone API		
12	Programming Security and permissions		
13	Programming Network Communications and Services (JSON)		



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ANAND VISHWA GURUKUL SR (NIGHT) COLLEGE, THANE



Sharda Education Society's

College Code : 11

Anand Vishwa Gurukul Senior Night College

of Commerce & Science

Affiliated To University of Mumbai

ISO 9001 : 2008 Certified

No. Aff.I/ICD/ 2014 - 15 / 29449, 09th July, 2014

Tel : 9987929008, Email us : avgsrcollege@gmail.com

Sample Notice of Computer Practicals for Computer Systems and Applications (Paper I & II)

University of Mumbai

Anand Vishwa Gurukul (Senior) Night College, Thane

TYBSc [IT] Sem V Practicals Examination

Date	Day	Time	Subject
18/10/2021	Monday	5.30 pm to 8.00 pm	Project Dissertation [SPM]
19/10/2021	Tuesday	5.30 pm to 8.00 pm	Internet of Things
20/10/2021	Wednesday	5.30 pm to 8.00 pm	Advance Web Programming
21/10/2021	Thursday	5.30 pm to 8.00 pm	Linux System Administration
22/10/2021	Friday	5.30 pm to 8.00 pm	Enterprise Java

Note :

1. Bring your Hall tickets, ID cards and journals.
2. Attendance is compulsory.
3. Reporting time 15 minutes before the examination.



IT Coordinator



Principal

ANAND VISHWA GURUKUL SENIOR NIGHT COLLEGE, THANE

SES'S AnandVishwaGurukul Senior Night College, Thane			
Sem VI Regular Term End Examination April 2022			
Date	Day	Time	Subject
19/04/2022	Tuesday	5.30 pm to 8.00 pm	Advance Mobile Programming
20/04/2022	Wednesday	5.30 pm to 8.00 pm	Security in Computing
21/04/2022	Thursday	5.30 pm to 8.00 pm	Business Intelligence
22/04/2022	Friday	5.30 pm to 8.00 pm	Geographical Information System
23/04/2022	Saturday	5.30 pm to 8.00 pm	Software Quality Assurance

Note :

1. Bring your Hall tickets, ID cards and journals.
2. Attendance is compulsory.
3. Reporting time 15 minutes before the examination.



Exam Co-Ordinator



Principal
I/C PRINCIPAL

ANAND VISHWA GURUKUL SENIOR NIGHT COLLEGE, THANE



Sharda Education Society's

College Code : 11

Anand Vishwa Gurukul Senior Night College

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No. Aff.I/ICD/ 2014 - 15 / 29449, 09th July, 2014

Tel : 9987929008, Email us : avgsrcollege@gmail.com

**University Circular on Field Based Project
Work for Semester VI for
All Courses (Except B.Com.)**

University of Mumbai



B.Com. (Accounting and Finance)

Programme

Guidelines for Project Work

at

**Third Year
Semester VI**

**Under Choice Based Credit, Grading and
Semester System**

(To be implemented from Academic Year 2018-2019)

Board of Studies-in-Accountancy

University of Mumbai



B.Com. (Banking and Insurance)

Programme

Guidelines for Project Work

at

**Third Year
Semester VI**

**Under Choice Based Credit, Grading and
Semester System**

(To be implemented from Academic Year 2018-2019)

Board of Studies-in-Banking and Finance

University of Mumbai



Bachelor of Management Studies

Programme

Guidelines for Project Work

at

**Third Year
Semester VI**

**Under Choice Based Credit, Grading and
Semester System**

(To be implemented from Academic Year 2018-2019)

Board of Studies-in-Business Management

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Introduction

Inclusion of project work in the course curriculum of the Bachelor of Management Studies programme is one of the ambitious aspects in the programme structure. The main objective of inclusion of project work is to inculcate the element of research analyse and scientific temperament challenging the potential of learner as regards to his/ her eager to enquire and ability to interpret particular aspect of the study. It is expected that the guiding teacher should undertake the counselling sessions and make the awareness among the learners about the methodology of formulation, preparation and evaluation pattern of the project work.

- There are two modes of preparation of project work
 1. Project work based on research methodology in the study area
 2. Project work based on internship in the study area

Guidelines for preparation of Project Work

1. General guidelines for preparation of project work based on Research Methodology

- The project topic may be undertaken in any area of Elective Courses.
- Each of the learner has to undertake a Project individually under the supervision of a teacher-guide.
- The learner shall decide the topic and title which should be specific, clear and with definite scope in consultation with the teacher-guide concerned.
- University/college shall allot a guiding teacher for guidance to the students based on her / his specialization.
- The project report shall be prepared as per the broad guidelines given below:
 - Font type: Times New Roman
 - Font size: 12-For content, 14-for Title
 - Line Space : 1.5-for content and 1-for in table work
 - Paper Size: A4
 - Margin : in Left-1.5, Up-Down-Right-1
 - The Project Report shall be bounded.
 - The project report should be 80 to 100 pages



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Format

1st page (Main Page)

Title of the problem of the Project

A Project Submitted to
University of Mumbai for partial completion of the degree of
Bachelor of Management Studies
Under the Faculty of Commerce

By

Name of the Learner

Under the Guidance of

Name of the Guiding Teacher

Name and address of the College

Month and Year

2nd Page

This page to be repeated on 2nd page (i.e. inside after main page)



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On separate page

Index

Chapter No. 1 (sub point 1.1, 1.1.1, And so on)	Title of the Chapter	Page No.
Chapter No. 2	Title of the Chapter	
Chapter No. 3	Title of the Chapter	
Chapter No. 4	Title of the Chapter	
Chapter No. 5	Title of the Chapter	

List of tables, if any, with page numbers.

List of Graphs, if any, with page numbers.

List of Appendix, if any, with page numbers.

Abbreviations used:



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Structure to be followed to maintain the uniformity in formulation and presentation of Project Work

(Model Structure of the Project Work)

- **Chapter No. 1: Introduction**

In this chapter Selection and relevance of the problem, historical background of the problem, brief profile of the study area, definition/s of related aspects, characteristics, different concepts pertaining to the problem etc can be incorporated by the learner.

- **Chapter No. 2: Research Methodology**

This chapter will include Objectives, Hypothesis, Scope of the study, limitations of the study, significance of the study, Selection of the problem, Sample size, Data collection, Tabulation of data, Techniques and tools to be used, etc can be incorporated by the learner.

- **Chapter No. 3: Literature Review**

This chapter will provide information about studies done on the respective issue. This would specify how the study undertaken is relevant and contribute for value addition in information/ knowledge/ application of study area which ultimately helps the learner to undertake further study on same issue.

- **Chapter No. 4: Data Analysis, Interpretation and Presentation**

This chapter is the core part of the study. The analysis pertaining to collected data will be done by the learner. The application of selected tools or techniques will be used to arrive at findings. In this, table of information's, presentation of graphs etc. can be provided with interpretation by the learner.

- **Chapter No. 5: Conclusions and Suggestions**

In this chapter of project work, findings of work will be covered and suggestion will be enlisted to validate the objectives and hypotheses.

Note: If required more chapters of data analysis can be added.

- **Bibliography**
- **Appendix**



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On separate page

Declaration by learner

I the undersigned Miss / Mr. _____ *Name of the learner* _____ here by,
declare that the work embodied in this project work titled “ _____
_____ *Title of the Project* _____ ”,
forms my own contribution to the research work carried out under the guidance of
_____ *Name of the guiding teacher* _____ is a result of my own research work and has
not been previously submitted to any other University for any other Degree/ Diploma
to this or any other University.

Wherever reference has been made to previous works of others, it has been clearly
indicated as such and included in the bibliography.

I, here by further declare that all information of this document has been obtained and
presented in accordance with academic rules and ethical conduct.

Name and Signature of the learner

Certified by

Name and signature of the Guiding Teacher



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On separate page

Acknowledgment

(Model structure of the acknowledgement)

To list who all have helped me is difficult because they are so numerous and the depth is so enormous.

I would like to acknowledge the following as being idealistic channels and fresh dimensions in the completion of this project.

I take this opportunity to thank the **University of Mumbai** for giving me chance to do this project.

I would like to thank my **Principal**, _____ for providing the necessary facilities required for completion of this project.

I take this opportunity to thank our **Coordinator** _____, for her moral support and guidance.

I would also like to express my sincere gratitude towards my project guide _____ whose guidance and care made the project successful.

I would like to thank my **College Library**, for having provided various reference books and magazines related to my project.

Lastly, I would like to thank each and every person who directly or indirectly helped me in the completion of the project especially **my Parents and Peers** who supported me throughout my project.



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2. Guidelines for Internship based project work

- Minimum 20 days/ 100 hours of Internship with an Organisation/ NGO/ Charitable Organisation/ Private firm.
- The theme of the internship should be based on any study area of the elective courses
- Experience Certificate is Mandatory
- A project report has to be brief in content and must include the following aspects:
 - **Executive Summary:**
A bird's eye view of your entire presentation has to be precisely offered under this category.
 - **Introduction on the Company:**
A Concise representation of company/ organization defining its scope, products/ services and its SWOT analysis.
 - **Statement and Objectives:**
The mission and vision of the organization need to be stated enshrining its broad strategies.
 - **Your Role in the Organisation during the internship:**
The key aspects handled, the department under which you were deployed and brief summary report duly acknowledged by the reporting head.
 - **Challenges:**
The challenges confronted while churning out theoretical knowledge into practical world.
 - **Conclusion:**
A brief overview of your experience and suggestions to bridge the gap between theory and practice.
- The project report based on internship shall be prepared as per the broad guidelines given below:
 - Font type: Times New Roman
 - Font size: 12-For content, 14-for Title
 - Line Space : 1.5-for content and 1-for in table work
 - Paper Size: A4
 - Margin : in Left-1.5, Up-Down-Right-1
 - The Project Report shall be bounded.
 - The project report should be of minimum 50 pages



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Evaluation pattern of the project work

The Project Report shall be evaluated in two stages viz.	
• Evaluation of Project Report (Bound Copy)	60 Marks
▪ Introduction and other areas covered	20 Marks
▪ Research Methodology, Presentation, Analysis and interpretation of data	30 Marks
▪ Conclusion & Recommendations	10 Marks
• Conduct of Viva-voce	40 Marks
▪ In the course of Viva-voce, the questions may be asked such as importance / relevance of the study, objective of the study, methodology of the study/ mode of Enquiry (question responses)	10 Marks
▪ Ability to explain the analysis, findings, concluding observations, recommendation, limitations of the Study	20 Marks
▪ Overall Impression (including Communication Skill)	10 Marks

Note:

- *The guiding teacher along with the external evaluator appointed by the University/ College for the evaluation of project shall conduct the viva-voce examination as per the evaluation pattern*

Passing Standard

- Minimum of Grade E in the project component
- In case of failing in the project work, the same project can be revised for ATKT examination.
- Absence of student for viva voce: If any student fails to appear for the viva voce on the date and time fixed by the department such student shall appear for the viva voce on the date and time fixed by the Department, such student shall appear for the viva voce only along with students of the next batch.



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ANAND VISHWA GURUKUL SR (NGHT) COLLEGE, THANE

Academic Council 14/06/2018

Item No:4.49

UNIVERSITY OF MUMBAI



Syllabus for T.Y.B.Sc.

Programme: B.Sc.

Subject: Information Technology

(Choice Based Credit System)

(with effect from the academic year 2018 – 2019)

Semester – 5			
Course Code	Course Type	Course Title	Credits
USIT501	Skill Enhancement Course	Software Project Management	2
USIT502	Skill Enhancement Course	Internet of Things	2
USIT503	Skill Enhancement Course	Advanced Web Programming	2
USIT504	Discipline Specific Elective (Any One)	Artificial Intelligence	2
USIT505		Linux System Administration	
USIT506	Discipline Specific Elective (Any One)	Enterprise Java	2
USIT507		Next Generation Technologies	
USIT5P1	Skill Enhancement Course Practical	Project Dissertation	2
USIT5P2	Skill Enhancement Course Practical	Internet of Things Practical	2
USIT5P3	Skill Enhancement Course Practical	Advanced Web Programming Practical	2
USIT5P4	Discipline Specific Elective Practical (Any One)*	Artificial Intelligence Practical	2
USIT5P5		Linux Administration Practical	
USIT5P6	Discipline Specific Elective Practical (Any One)*	Enterprise Java Practical	2
USIT5P7		Next Generation Technologies Practical	
Total Credits			20

(All the practical mentioned in the syllabi are compulsory as per the courses chosen)

Semester – 6			
Course Code	Course Type	Course Title	Credits
USIT601	Skill Enhancement Course	Software Quality Assurance	2
USIT602	Skill Enhancement Course	Security in Computing	2
USIT603	Skill Enhancement Course	Business Intelligence	2
USIT604	Discipline Specific Elective (Any One)	Principles of Geographic Information Systems	2
USIT605		Enterprise Networking	
USIT606	Discipline Specific Elective (Any One)	IT Service Management	2
USIT607		Cyber Laws	
USIT6P1	Skill Enhancement Course Practical	Project Implementation	2
USIT6P2	Skill Enhancement Course Practical	Security in Computing Practical	2
USIT6P3	Skill Enhancement Course Practical	Business Intelligence Practical	2
USIT6P4	Discipline Specific Elective Practical (Any One)*	Principles of Geographic Information Systems Practical	2
USIT6P5		Enterprise Networking Practical	
USIT6P6	Skill Enhancement Course Practical	Advanced Mobile Programming	2
Total Credits			20

***The choice of Practical course is based on the theory Course. For Semester V, USIT504, USIT505, USIT506 and USIT507, the practical courses are USIT5P4, USIT5P5, USIT5P6, USIT5P7. For Semester VI, USIT604, USIT605 the practical courses are USIT6P4, USIT6P5 respectively. Practical Course USIT6P6 is compulsory.**



Project Dissertation Semester V and Project Implementation Semester VI

Chapter 1 to 4 should be submitted in Semester V in spiral binding. These chapter have also to be included in Semester VI report. Semester VI report has to be hard bound with golden embossing. Students will be evaluated based on the dissertation in semester V and dissertation and viva voce in Semester VI.

I. OBJECTIVES

- Describe the Systems Development Life Cycle (SDLC).
- Evaluate systems requirements.
- Complete a problem definition.
- Evaluate a problem definition.
- Determine how to collect information to determine requirements.
- Perform and evaluate feasibility studies like cost-benefit analysis, technical feasibility, time feasibility and Operational feasibility for the project.
- Work on data collection methods for fact finding.
- Construct and evaluate data flow diagrams.
- Construct and evaluate data dictionaries.
- Evaluate methods of process description to include structured English, decision tables and decision trees.
- Evaluate alternative tools for the analysis process.
- Create and evaluate such alternative graphical tools as systems flow charts and state transition diagrams.
- Decide the S/W requirement specifications and H/W requirement specifications.
- Plan the systems design phase of the SDLC.
- Distinguish between logical and physical design requirements.
- Design and evaluate system outputs.
- Design and evaluate systems inputs.
- Design and evaluate validity checks for input data.
- Design and evaluate user interfaces for input.



- Design and evaluate file structures to include the use of indexes.
- Estimate storage requirements.
- Explain the various file update processes based on the standard file organizations.
- Decide various data structures.
- Construct and evaluate entity-relationship (ER) diagrams for RDBMS related projects.
- Perform normalization for the unnormalized tables for RDBMS related projects
- Decide the various processing systems to include distributed, client/server, online and others.
- Perform project cost estimates using various techniques.
- Schedule projects using both GANTT and PERT charts.
- Perform coding for the project.
- Documentation requirements and prepare and evaluate systems documentation.
- Perform various systems testing techniques/strategies to include the phases of testing.
- Systems implementation and its key problems.
- Generate various reports.
- Be able to prepare and evaluate a final report.
- Brief the maintenance procedures and the role of configuration management in operations.
- To decide the future scope and further enhancement of the system.
- Plan for several appendices to be placed in support with the project report documentation.
- Decide the various processing systems to include distributed, client/server, online and others.
- Perform project cost estimates using various techniques.
- Schedule projects using both GANTT and PERT charts.
- Perform coding for the project.
- Documentation requirements and prepare and evaluate systems documentation.
- Perform various systems testing techniques/strategies to include the phases of testing.
- Systems implementation and its key problems.
- Generate various reports.
- Be able to prepare and evaluate a final report.
- Brief the maintenance procedures and the role of configuration management in operations.
- To decide the future scope and further enhancement of the system.



- Plan for several appendices to be placed in support with the project report documentation.
- Work effectively as an individual or as a team member to produce correct, efficient, well-organized and documented programs in a reasonable time.
- Recognize problems that are amenable to computer solutions, and knowledge of the tool necessary for solving such problems.
- Develop of the ability to assess the implications of work performed.
- Get good exposure and command in one or more application areas and on the software
- Develop quality software using the software engineering principles
- Develop of the ability to communicate effectively.

II. Type of the Project

The majority of the students are expected to work on a real-life project preferably in some industry/ Research and Development Laboratories/Educational Institution/Software Company. Students are encouraged to work in the areas listed below. However, it is **not mandatory** for a student to work on a real-life project. The student can formulate a project problem with the help of her/his Guide and submit the project proposal of the same. **Approval of the project proposal is mandatory.** If approved, the student can commence working on it, and complete it. Use the latest versions of the software packages for the development of the project.

III. SOFTWARE AND BROAD AREAS OF APPLICATION

FRONT END / GUI Tools	.Net Technologies, Java
DBMS/BACK END	Oracle, SQL Plus, MY SQL, SQL Server,
LANGUAGES	C, C++, Java, VC++, C#, R, Python
SCRIPTING LANGUAGES	PHP, JSP, SHELL Scripts (Unix), Tcl/TK,
.NET Platform	F#, C#. Net, Visual C#. Net, ASP.Net
MIDDLE WARE (COMPONENT) TECHNOLOGIES	COM/DCOM, Active-X, EJB
UNIX INTERNALS	Device Drivers, RPC, Threads, Socket programming
NETWORK/WIRELESS TECHNOLOGIES	-

REALTIME OPERATING SYSTEM/ EMBEDDED SKILLS	LINUX, Raspwerry Pi, Arduine, 8051
APPLICATION AREAS	Financial / Insurance / Manufacturing / Multimedia / Computer Graphics / Instructional Design/ Database Management System/ Internet / Intranet / Computer Networking-Communication Software development/ E-Commerce/ ERP/ MRP/ TCP-IP programming / Routing protocols programming/ Socket programming.

IV. Introduction

The project report should be documented with scientific approach to the solution of the problem that the students have sought to address. The project report should be prepared in order to solve the problem in a methodical and professional manner, making due references to appropriate techniques, technologies and professional standards. The student should start the documentation process from the first phase of software development so that one can easily identify the issues to be focused upon in the ultimate project report. The student should also include the details from the project diary, in which they will record the progress of their project throughout the course. The project report should contain enough details to enable examiners to evaluate the work. The important points should be highlighted in the body of the report, with details often referred to appendices.

1.1 PROJECT REPORT:

Title Page

Original Copy of the Approved Proforma of the Project Proposal

Certificate of Authenticated work

Role and Responsibility Form

Abstract

Acknowledgement

Table of Contents

Table of Figures

CHAPTER 1: INTRODUCTION

Background

Objectives

Purpose, Scope, and Applicability



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Purpose
Scope
Applicability
Achievements
Organisation of Report

CHAPTER 2: SURVEY OF TECHNOLOGIES

CHAPTER 3: REQUIREMENTS AND ANALYSIS

Problem Definition
Requirements Specification
Planning and Scheduling
Software and Hardware Requirements
Preliminary Product Description
Conceptual Models CHAPTER

4: SYSTEM DESIGN

Basic Modules
Data Design
Schema Design
Data Integrity and Constraints
Procedural Design
Logic Diagrams
Data Structures
Algorithms Design
User interface design
Security Issues
Test Cases Design

The documentation should use tools like star UML, Visuo for windows, Rational Rose for design as part of Software Project Management Practical Course. The documentation should be spiral bound for semester V and the entire documentation should be hard bound during semester VI.

CHAPTER 5: IMPLEMENTATION AND TESTING

Implementation Approaches

Coding Details and Code Efficiency

Code Efficiency

Testing Approach

Unit Testing

Integrated Testing

Beta Testing

Modifications and Improvements

Test Cases

CHAPTER 6: RESULTS AND DISCUSSION

Test Reports

User Documentation

CHAPTER 7: CONCLUSIONS

Conclusion

Significance of the System

Limitations of the System

Future Scope of the Project

REFERENCES

GLOSSARY

APPENDIX A

APPENDIX B

PROFORMA FOR THE APPROVAL PROJECT PROPOSAL

(Note: All entries of the proforma of approval should be filled up with appropriate and complete information. Incomplete proforma of approval in any respect will be summarily rejected.)

PNR No.:

Rollno: _____

1. Name of the Student

2. Title of the Project

3. Name of the Guide

4. Teaching experience of the Guide _____

5. Is this your first submission?

Yes

No

Signature of the Student

Signature of the Guide

Date:

Date:

Signature of the reordinator

Date:



(All the text in the report should be in times new roman)

TITLE OF THE PROJECT
(NOT EXCEEDING 2 LINES, 24 BOLD,
ALL CAPS)

A Project Report (12 Bold)
Submitted in partial fulfillment of the
Requirements for the award of the Degree of (size-12)

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)(14 BOLD,
CAPS)

By(12 Bold)

Name of The Student (size-15, title case)
Seat Number (size-15)

Under the esteemed guidance of (13 bold)
Mr./Mrs. Name of The Guide (15 bold, title case)
Designation (14 Bold, title case)

COLLEGE LOGO

DEPARTMENT OF INFORMATION TECHNOLOGY(12 BOLD, CAPS)
COLLEGE NAME (14 BOLD, CAPS)
(Affiliated to University of Mumbai) (12, Title case, bold, italic)
CITY, PIN CODE(12 bold, CAPS)
MAHARASHTRA (12 bold, CAPS)
YEAR (12 bold)



COLLEGE NAME (14 BOLD, CAPS)
(Affiliated to University of Mumbai) (13, bold, italic)
CITY-MAHARASHTRA-PINCODE(13 bold, CAPS)

DEPARTMENT OF INFORMATION TECHNOLOGY (14 BOLD, CAPS)

College Logo

CERTIFICATE (14 BOLD, CAPS, underlined, centered)

This is to certify that the project entitled, "**Title of The Project** ", is bonafied work of **NAME OF THE STUDENT** bearing Seat.No: (**NUMBER**) submitted in partial fulfillment of the requirements for the award of degree of BACHELOR OF SCIENCE in INFORMATION TECHNOLOGY from University of Mumbai. (12, times new roman, justified)

Internal Guide (12 bold)

Coordinator

(Don't write names of lecturers or HOD)

External Examiner

Date:

College Seal

(Project Abstract page format)

Abstract (20 bold, caps, centered)

Content (12, justified)

Note: Entire document should be with 1.5 line spacing and all paragraphs should start with 1 tab space.

ACKNOWLEDGEMENT (20, BOLD, ALL CAPS, CENTERED)

The acknowledgement should be in times new roman,12 font with 1.5 line spacing, justified.

DECLARATION (20 bold, centered, allcaps)

Content (12, justified)

I here by declare that the project entitled, “**Title of the Project**” done at **place where the project is done**, has not been in any case duplicated to submit to any other university for the award of any degree. To the best of my knowledge other than me, no one has submitted to any other university.

The project is done in partial fulfillment of the requirements for the award of degree of **BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)** to be submitted as final semester project as part of our curriculum.

Name and Signature of the Student

TABLE OF CONTENTS (20bold, caps, centered)

Should be generated automatically using word processing software.

Chapter 1: Introduction	01(no bold)
Background	02(no bold)
Objectives
Purpose and Scope
Purpose
Scope	

Chapter 2: System Analysis	
Existing System	
Proposed System	
Requirement Analysis	
Hardware Requirements	
Software Requirements	
Justification of selection of Technology	

Chapter 3: System Design	
Module Division	
Data Dictionary	
ER Diagrams	
DFD/UML Diagrams	

Chapter 4: Implementation and Testing	
Code (Place Core segments)	
Testing Approach	
Unit Testing (Test cases and Test Results)	
Integration System (Test cases and Test Results)	

Chapter 5: Results and Discussions (Output Screens)

Chapter 6: Conclusion and Future Work

Chapter 7: References

List of Tables (20 bold, centered, Title Case)

Should be generated automatically using word processing software.

List of Figures (20 bold, centered, Title Case)

Should be generated automatically using word processing software.



(Project Introduction page format)

Chapter 1

Introduction (20 Bold, centered)

Content or text (12, justified)

Note: Introduction has to cover brief description of the project with minimum 4 pages.

Chapter 2

System Analysis (20 bold, Centered)

Subheadings are as shown below with following format (16 bold, CAPS)

2.1 Existing System (16 Bold)

2.1.1 ----- (14 bold, title case)

2.1.1.1 ----- (12 bold, title case)

Proposed System

Requirement Analysis

Hardware Requirements

Software Requirements

Justification of Platform – (how h/w & s/w satisfying the project)

Table 2.1: Caption

Chapter 3

System Design (20 bold, centered)

Subheadings are as shown below with following format (16 bold, CAPS)

Specify figures as Fig 11.1 – caption

Module Division

Data Dictionary

E-R Diagrams



Data Flow Diagrams / UML

Note: write brief description at the bottom of all diagrams

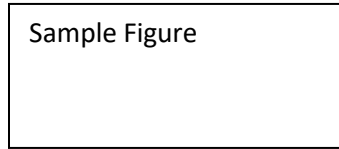


Fig. 3.1: Caption

Chapter 4

Implementation and Testing (20 bold, centered)

Code (Place Core segments)

Content includes description about coding phase in your project (Font-12)
(* don't include complete code ---- just description)

Testing Approach

Subheadings are as shown below with following format (16 bold, CAPS)

Unit Testing

Integration Testing

Note:

- Explain about above testing methods
- Explain how the above techniques are applied in your project
- Provide Test plans, test cases, etc relevant to your project

Chapter 5

Results and Discussions (20 bold, centered)

Note: Place Screen Shots and write the functionality of each screen at the bottom

Chapter 6

Conclusion and Future Work (20 bold, centered)

The conclusions can be summarized in a fairly short chapter around 300 words. Also include limitations of your system and future scope (12, justified)

Chapter 7

References (20 bold, centered)

Content (12, LEFT)

[1] Title of the book, Author

[2] Full URL of online references

[3]

*** NOTE ABOUT PROJECT VIVA VOCE:**

Student may be asked to write code for problem during VIVA to demonstrate his coding capabilities and he/she may be asked to write any segment of coding used in the in the project. The project can be done in group of at most four students. However, the length and depth of the project should be justified for the projects done in group. A big project can be modularised and different modules can be assigned as separate project to different students.

Marks Distribution:

Semester V: 50 Marks

Documentation: 50 marks

Semester VI: 150 Marks

Documentation: 50 Marks:

Implementation and Viva Voce: 100 Marks

The plagiarism should be maintained as per the UGC guidelines.



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Sample Notice of Field Based Project Work for Sem. VI For All Courses

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Date: 12.01.2022**NOTICE**

All the students of Third Year BBI, BAF, B.Sc. I.T. and BMS have to submit the project for VI Semester as per the topics allotted to you in the following list. Students must follow the guidelines given by University of Mumbai while preparing the project.

Third Year Bachelor of Commerce (Banking and Insurance)

Roll No.	Name of the Project
1	A Study on Customer Perception towards Home Loan With reference SBI
2	Electronic Banking in SBI with respect to Thane Region
3	Consumer Perception of Reliance Life Insurance Policy
4	Effectiveness of Customer Relationship Management Programme in SBI
5	Role of Co-Operative Banks towards Customer
6	Analysis of E-Banking Services in Banking in Thane region
7	A study of Motor Policy with reference to New India Insurance Co. Ltd.
8	A Study of Comparative Analysis of NPA of Public and Private Sector Banks
9	Growth of Mutual Funds in India and Its Impact on National Income
10	Functions of Commercial Banking SBI
11	Investors Behavior towards Financial Instruments of SBI in Thane City
12	A Study of product and services provided by TJSB
13	Study of Investors In Mutual Fund of Union Bank of India in Thane region
14	Report on Mutual Funds Schemes of Sunadaram Finance Ltd.
15	A Study on Products and Services provided by SBI
16	Study on Role of Information Technology on HDFC Bank
17	Study on Internet Banking by Customers point of view with refernce to SBI
18	Study of Various Loans Offered by SBI
19	Customer Awareness Towards E-Banking Services in TJSB Bank

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Third Year Bachelor of Commerce (Accounting and Finance)

Roll No.	Name of the Project
1	Customer Relationship Management in Saraswat Bank
2	E Banking in ICICI Bank
3	A Project Report on Services Provided by G.P. Parsik Bank
4	Merger and Acquisition in Insurance
5	Internet Banking in Syndicate Bank
6	Various Types of Loans Provided by Axis Bank
7	Customer Satisfaction Regarding Kotak Mahindra Life Insurance
8	Project Report on Financial Analysis of ICICI Bank
9	The Study of Customer Relationship Management Service in Thane of TJSB
10	Comparison Between Traditional Plans & ULIPS
11	Human Resources Management with Respect to LIC of India
12	Asset Liability Management in HDFC Bank
13	Report on Home Insurance with Reference to ICICI Lombard
14	Portfolio Management in LIC
15	Report on Effectiveness of CRM Program in SBI
16	Overall Function of Performance by Services Provided by ICICI Bank
17	Information Tech with Bank of Maharashtra
18	Study of Customer Relationship Management in LIC
19	Report on Life Insurance Corporation of India
20	Life Insurance Policies
21	Study of Home Insurance Bajaj Allianz
22	Marketing of Insurance in SBI Life Insurance
23	Study of Life Insurance Bajaj Allianz
24	Pradhanmantri Jeevan Jyoti Bima Yojana in SBI Life Insurance
25	Marine Insurance in Bajaj Co.

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26	Study of Innovative Product and services offered by Dena Bank
27	Various Product of LIC
28	Marketing of Insurance Product in LIC
29	Travel Insurance in Bajaj Allianz
30	Project on ICICI Prudential Life Insurance
31	Financial Planning in LIC
32	Project on Product and Services Provided by Kotak Mahindra Bank
33	Project on Public Relation in LIC
34	Study of Empowerment and Money Back Policy Plan and its Customer Satisfaction with LIC
35	A Study of Various Services Provided by GP Parsik Bank
36	Study of Various Services Provided by Axis Bank
37	HRM in Insurance in Max Life Insurance
38	HDFC Standard Life Insurance
39	Product of LIC
40	Various Types of Loans Provided by Axis Bank
41	Personal Accident Insurance
42	Project on Performance Appraisal in LIC
43	Investment Option Available in SBI
44	Product of LIC
45	Innovation Services Offered by SBI
46	CRM in Insurance of Birla Sunlife Insurance
47	Financial Planning on Insurance with Respect to LIC
48	Study of HRM of Shamrao Vithhal Co-op Bank Ltd.
49	ATM Services in Union Bank
50	ULIP Product of SBI
51	Information Tech with TJSB
52	Study of Star Health Insurance Plan and Policies

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53	HRM in HDFC Bank
54	Claim Management in LIC
55	Study on Customer Satisfaction Regarding Kotak Mahindra Life Insurance
56	General Insurance with Respect to Bajaj Allianz
57	Study of Motor Policy with Reference to New India Assurancxe Co.
58	Claim Management LIC
59	Study on Customer Satisfaction Regarding LIC
60	Project on Marketing Strategy in Karnataka Bank
61	Study on Kotak Life Insurance
62	Insurance Awareness in LIC
63	Study of Mediclaim Policy
64	Project on Bankinsurance of SBI
65	Portfolio Management in Kotak Securities Ltd.
66	Project on Co-Operative with Special Reference to NKGSB Bank
67	CRM in Insurance of LIC
68	Project on LIC
69	Project on E-Banking in TJSB
70	Project on Electronic Banking in Indian bank
71	Portfolio Management in Max life Insurance
72	Role of LIC in Indian Industry
73	Various Insurance Policies Provided by SBI Life insurance
74	Comparative Analysis of ICICI Bank
75	A Study of Impact of FDI Insurance

Bachelor of Science (Information and Technology)

Roll No.	Title of the Project
1	Online Books Store



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2	Online Cake Shop
3	Hospital Management System
4	Library Management System
5	Food Plaza
6	Ayurveda CMS Online System
7	Online Game Concole
8	Tour Management System
9	Vegetables E-Shop
10	Online Sport's Turf Playground Booking System
11	Insurance Management System
12	Insurance Management System
13	Gym Management
14	Online Musical Shop
15	Online Shopping
16	Online Game Concole
17	Stock Management
18	Online Books Store
19	Secondhand Online Book Store
20	Real Estate In-house Project
21	Online Bakery Shop
22	Tour Management System
23	Online language learning
24	Hotel Administration
25	Medical Administration
26	Online Food Order System
27	Gym Management System
28	Online Loan Management



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29	Online Newspaper System
30	Employee Management System
31	Contracts Renovation management
32	Chat Application
33	Grocery Online Store
34	Stock's Analysis Website
35	Online Book Store
36	Truck Management System
37	Clone of Netflix Website
38	E-Commerce Website
39	Hotel Management System
40	Smarth Health Prediction System
41	Online Sport's Turf Playground Booking System
42	Njoy Car/Bike Rental App
43	Farmers App
44	Online Courier Tracker System
45	Clone of Netflix Website
46	Gym Management System
47	Online Sport Shop System
48	Online Bakery Shop
49	Attendance Using Face Detection
50	Online Newspaper System
51	Doctor Online Appointment System
52	Nursing Buero management System
53	Beauty Parlour Management System
54	Hotel Administration
55	Online Fruitshop

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56	Online Cake Shop
----	------------------

Third Year Bachelor of Management Studies

Roll No.	Name of the Project
1	A Study on Consumer Perception Towards Hero Honda Motor Bikes in Thane City
2	A Study on Marketing Strategies in Brand Building on the Internet
3	A Study on Advertising and Sales Promotion Techniques Used by Retail Businesses With Special Reference to Big Bazaar
4	A Study on Understanding the International Marketing , Advertising and Promotion Strategies of Nokia
5	A Study on Customer Buying Behaviour Towards Insurance Products
6	A Study of Consumer Behaviour Towards Public Sector and Private Sector Banks
7	A Study on Impact of Customer Relationship Management on Communication Industry
8	Brand Perception of Samsung a Dealers Survey in Thane Region
9	Analysis of Risk and Return in Banking and Automobile Sectors
10	A Study on Alternate Channel For Distribution of Reliance Mutual Fund
11	A Strategic Overview of E-payment in Indian Business
12	A Study on Awareness and Implementation of CRISIL SME Rating Amongst Emerging SME
13	A Study on Current Trends and Growth Pattern of Indian Banking Sector
14	A Study on Global Financial Meltdown and How to Avoid Economic Crisis
15	A Study on Product Strategies of Private Life Insurance Companies With Reference to Thane District
16	A Study on Strategies Used to Build Successful Internet Based Customer Services.
17	A Study on Promotion Strategies Followed in Insurance Products
18	Financial inclusion in India
19	A Study on SBI Loans
20	A Study on HDFC Home Loans
21	The Study of Operations and Marketing of Indian Pharmaceutical Industry

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22	Impact of GST on Hotel industry w.r.t. Hotels in Thane City
23	Study of Life insurance Policies Provided By Life insurance Corporation of India.
24	A Study on Innovations in Marketing in Electronic and IT Companies
25	To Study on Effective Analysis of Consumer Satisfaction Towards investment Plans And Market Research of Saving Schemes in Life insurance Corporation of India”
26	A Study on Transaction Costing in Project Appraisal and Loan Processing
27	To Study of Net Banking of Bharat Sahakari Bank Thane
28	To Study The Mutual Funds Habit Among Salaried People in India
29	Impact on Covid 19 on Indian Stock Market
30	A Study on Business Process Outsourcing
31	A Study on Risk Management in Banking With Special Reference to HDFC Bank In Thane Region
32	The Study of Customer Perception Towards Ayurvedic Health SPAS
33	Study of Induction Programe Respect to the Abhinav Sahkari Bank Ltd.
34	A Study of Customer Satisfaction Towards Online Shopping from Amazon
35	A Cooperative Study of Promotion Strategies between Digital Printing and Offset Printing
36	A Cooperative Study of Promotion Strategies between Digital Printing and Offset Printing
37	A Project Report on Capital Market in India
38	A Project Report on Capital Market in India
39	A Project Report on Capital Market in India
40	A Study on Transaction Costing in Project Appraisal and Loan Processing
41	To Study of Net Banking of Bharat Sahakari Bank Thane
42	To Study of Net Banking of Bharat Sahakari Bank Thane
43	A Study on Changing Importance of Various Media Vehicles of Advertising
44	A Study on Changing Importance of Various Media Vehicles of Advertising
45	A Study on Changing Importance of Various Media Vehicles of Advertising
46	Financial Risk Management in SBI And ICICI Bank



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47	Financial Risk Management in SBI And ICICI Bank
48	Financial Risk Management in SBI And ICICI Bank
49	A Comparative Study of Promotion Strategies between Digital Printing and Offset Printing
50	A Comparative Study of Promotion Strategies between Digital Printing and Offset Printing
51	A Comparative Study of Promotion Strategies between Digital Printing and Offset Printing



I/C PRINCIPAL

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Report on Use of ICT by Teachers and Students in Teaching-Learning Process



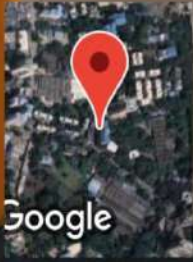
Students Making Use of ICT for Presentations

[Handwritten Signature]

I/C PRINCIPAL
 ANAND VISHWA GURUKUL SR (NIGHT) COLLEGE, THANE



GPS Map Camera



Google

Thane, Maharashtra, India

Anand Vishwa Gurukul Sr College, near Mittal Park, Louis Wadi, Thane West, Thane, Maharashtra 400604, India

Lat 19.190389°

Long 72.961031°

16/03/23 05:53 PM GMT +05:30



GPS Map Camera



Google

Thane, Maharashtra, India

Supriya Horse Carrier, Shop No. 8, Manikpura Bldg, M. S Road, Raghunath Nagar, Thane West, Louis Wadi, Thane West, Thane, Maharashtra 400604, India

Lat 19.190112°

Long 72.96082°

26/06/23 04:37 PM GMT +05:30

Teachers Making Use of ICT for Presentations

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