

COURSE HANDOUTS AND GUIDELINES

FOR

FIRST DEGREE THESIS

(Course Numbers: BITS F421T/BITS F422T/BITS F423T/BITS F424T)

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BITS Pilani
Pilani Campus

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS

July 2015

CALENDAR OF EVENTS

1. THESIS COURSE

| I Sem. | II Sem. | Item | From | To |
|------------------|----------------|---|-------------------|---------------------------|
| AUG 16 | JAN 22 | TS-1 Form | Student | Head of Department |
| AUG 28 | JAN 29 | Detailed outline of work | Student | Supervisor |
| SEP 05 | FEB 10 | Viva –I | Student | Supervisor |
| OCT 08 | MAR 15 | Mid. Semester written report and presentation | Student | Supervisor |
| OCT 08 | MAR 15 | Mid. Semester Grader | Supervisor | Head of Department |
| NOV 15 | APR 15 | Viva – II | Student | Supervisor |
| NOV 28 | APR 30 | Thesis abstract | Student | Supervisor |
| NOV 28 | APR 30 | Final thesis report submission | Student | Supervisor |
| Dec 1 - 8 | May 3-10 | Final Viva | Student | Examiner |
| Dec 1 - 8 | May 3-8 | Final Thesis Report, Final Evaluation Form (1 copy each) | Supervisor | Head of Department |

Note: If any of the above date happens to be a Sunday or a holiday, the immediate next date will be the calendar date. FINAL THESIS REPORT should invariably be submitted on or before the above mentioned date.

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS

FIRST/SECOND SEMESTER

COURSE HANDOUT: BITS F421T/BITS F422T/BITS F423T/BITS F424T THESIS

1. Scope and Objective of the course

The aim of the thesis course is to train a student in the methodology of research, to cultivate a logical and creative thinking and to make him express his findings in the form of a scientific report. It also gives an opportunity to the student to comprehend his subject knowledge and apply it to the given problem.

2. Operation of the course

- a. The student should immediately chalk out a plan of work in consultation with the supervisor. The supervisor will spell out the objectives and expected rate of progress. Literature survey should be carried out to ascertain the current state of work in the proposed area of thesis. The detailed outline of the work must include a time schedule clearly indicating the intermediate milestones and the estimated time to reach the same.
- b. Within two weeks of registration, the student should give his Thesis particulars to the Head of Department in TS-1 Performa.
- c. Typed /word-processed copy of final thesis are to be submitted to the supervisor on or before the last day of class work in the semester.
- d. ONE typed copy of Thesis Abstract (ONLY) should be submitted to the supervisor along with the Final Report. The ABSTRACT should also be a part of the Bound Report in the same format. The suggested format is given below.

Format of submission of Thesis Abstract

Thesis Title:

Supervisor:

Semester: First/Second

Session

Name of Student:

ID No:

Abstract (Approx 1000 to 2000 words)

e. Separate thesis topic has to be assigned to an individual student. Wherever the broad area is same, the aspects to be researched by an individual candidate should be clearly focused and spelt out.

7. Utmost care should be taken in the preparation of the FINAL REPORT. A check-list of various items is provided and students should carefully go through these. Supervisors are also requested to examine the draft of the FINAL REPORT keeping in view the items in the checklist. Title of the thesis should be proper and should be indicative of the type of work done.

3. Evaluation

Evaluation is essentially individual oriented. The various components of evaluation along with the weightage of each component and the due day/week are given below:

| Weightage | Week in which due | Component |
|--------------------------|-------------------|------------------------------|
| Viva –I | 15 | 5th week |
| Mid. sem. written report | 15 | 10th week |
| Mid. sem. Presentation | 15 | 10th week |
| Viva –II | 15 | 15th week |
| Final Thesis* | 25 | Last day of class work |
| Final Viva-voce* | 15 | Actual date announced by DRC |

*Final Thesis and Final Viva are to be jointly evaluated by the supervisor and the examiner appointed by the DRC (Departmental Research Committee).

The evaluation will recognize the day-to-day work involvement and punctuality of the student in the thesis work. Evaluation in various components shall take into account work progress and achievements, technical/professional competence, documentation and expression, initiative and originality, punctuality and reliability, self-reliance, and acquisition of special skills.

The student should extend full cooperation to his supervisor and interact with him in advance about the time, venue and mode of each evaluation. He should regularly meet his supervisor and present his work periodically. Proposed examiners may also be invited to attend Mid Semester presentation and viva sessions.

4. Grading Procedure

Grading will be done mainly on the basis of the progress made towards attaining the overall objectives of the Thesis. The supervisor shall evaluate various prescribed components of evaluation before the submission of final thesis. The final thesis and performance in the final viva are to be jointly evaluated by the panel consisting of supervisor and examiner appointed by the DRC.

Supervisor should make the Final Thesis Report available to the examiner well in advance. Before sending, he should check the contents of the Thesis, verify the checklist and sign the 'Certificate from the Supervisor'. Evaluation in various components can be done on the basis of marks or grades. However, the recommendations for the final award shall invariably be made in terms of one of the prescribed grades, viz. **A/A-/B/B-/C/C-/D/E**. The student will have to defend the work appearing in his/her thesis before the panel of examiners. Detailed outline of work and the mid-semester written report submitted by the student should be made available by the Supervisor to the examiner. Before giving recommendations for the final grade in the thesis, the examiners shall also take a note of the overall performance of the candidate as indicated through various reports, mid-semester grade, etc. A proper correlation amongst the various reports, final thesis and performance in the viva shall guide the recommendations for the final award.

Immediately after the viva, the supervisor shall send ONE copy of the completed Final Evaluation Form for the Thesis and Seminar courses to the Head of Department in a sealed cover. The other copy will be retained by him. The student should ensure with his supervisor that the evaluation forms reach the HOD well before the last date of comprehensive examination. He should also verify all items of check-list.

5. Mid-semester Grading

This will be announced by the supervisor to his student some time in 10th week of the semester. Mid-semester Evaluation Form must be submitted by supervisor to Head of Department in 10th week.

6. Make-up Policy

Since thesis is a full time involvement, there is no scope of any make up in this course.

7. Attendance and Routine Matters

a. Thesis is a full time involvement and it is the responsibility of the student to be in full attendance. He should be available for interaction as frequently as desired by supervisor. In his mid-semester report, the student should state quantitatively his attendance for all the working days falling in the period of the report. A student is liable to be awarded NC if he does not cooperate with his supervisor.

b. Every student has to sign his attendance regularly with the supervisor or as per the alternative arrangement made by the supervisor. An attendance sheet is being provided for this purpose to the supervisor. The candidate should apply and seek prior permission of his supervisor for going on leave for any genuine needs.

c. If the leave of absence exceeds SEVEN days in the entire semester, the recommended final grade by the examiners may be revised by the Instructor-in-charge in consultation with the supervisor.

d. For routine matters such as work place, laboratory help, contingency expenditure etc., the concerned Head of the department may be contacted through the supervisor.

e. For using central facilities like IPC, CAD, Instrumentation, Workshop, IMA lab, various stores, etc., students must follow the procedures laid down by the respective In charges of the facility.

f. For field trips out of Pilani, a complete plan indicating purpose, Duration and place of work should be given through the supervisor to Head of Department in advance for his approval.

g. The final viva cannot be held before the date on which comprehensive exam begins. The exact dates of final viva are scheduled by DRC spanning within the comprehensive examination period. However, depending on the exigencies of individual situation, these dates may be changed. Therefore, the students should plan in such a manner so that they are available till the end of comprehensive examination in the semester. If the THESIS is not submitted on the last day of class work as stipulated and examiners do not have sufficient time to read the Report, student will only be responsible for any delay in holding the Viva on the announced date.

h. The format of Thesis Cover/ Title page and 'Certificate from the Supervisor' are appended. NO OTHER FORMAT SHOULD BE USED. Abstract of the thesis should invariably be included in the thesis in the prescribed format. Suggested sequence for the organization of the Final Thesis is given below:

- | | |
|--|--|
| i. First page (inner cover) | viii. Conclusion |
| ii. Acknowledgement | ix. Appendices |
| iii. Certificate from the Supervisor | x. Bibliography/References (in standard format) |
| iv. List of Symbols & Abbreviations used | xi. List of Publications/Conference Presentations, if any. |
| v. Thesis Abstract | |
| vi. Table of Contents | |
| vii. Chapters 1,2,3,etc. | |

Each student is expected to learn the standard methodology of presenting references and bibliographical details through Library/self study work. Standard format should be used while reporting the same in Thesis. Mere reproduction from the books/papers should be avoided and relevant portion should only be referred.

8. Chamber consultation Hours

Each student is expected to fix up consultation hours with his supervisor. He can meet the Head of Department with a prior appointment.

9. Course Notices

All the notices issued shall be placed on Department Notice Board.

Check List of Items for Final Report of First Degree Thesis

1. Is the Report's 'Cover/Title page' in proper format?
2. Is 'Supervisor's Certificate' in proper format? Has it been signed?
3. Is 'Abstract' included in the Report? Is it in proper format?
4. Does the 'Contents' page include chapter page numbers?
5. Does the Report contain a summary of the literature survey?
6.
 - (a) Are the pages numbered properly?
 - (b) Are the figures numbered properly?
 - (c) Are the tables numbered properly?
 - (d) Are the figures and tables titled properly?
 - (e) Are the appendices numbered?
7. Does the Report contain 'Conclusion' of the work?
8. Are References/Bibliography given in the Report?
9. Have the 'References' been cited in the Report?
10. Is the citation of 'References and Bibliography' in the standHead of Department format?

Attention should be paid on the above items while preparing the FINAL REPORT. Supervisors are also requested to ensure that their candidate(s) have prepared the FINAL REPORT properly.

Illustrative Examples of Citation of References:

| | |
|----|---|
| 1. | Book: A. Gelb, Applied Optimal Estimation. Cambridge, M.A.; M..I.T. Press, 1974 |
| 2. | A paper in Conference or Symposium Proceedings edited Published by Book Company: R.E. Kalman, 'New Methods in Wiener filtering theory', in Proc. First Symposium on Engineering Applications of Random Function Theory and Probability' J.L. Bogdanoff and F. Kozin, Eds. New York, Wiley, 1963, pp. 270-388 |
| 3. | A Journal Paper: R.E. Kalman and N.S. Pucy, 'New results in linear filtering and prediction theory', Trans. ASME, J.Basic Eng., Vol. 83-D, pp. 95-108, Mar. 1961 |
| 4. | A Conference Paper: M. Vidyasagar and N.K. Bose, 'Input-output stability of linear systems defined over measure spaces', in Proc. Midwest Symp. Ciro, Syst., Montreal, P.O. Canada, Aug. 1975, pp 394-397 |
| 5. | A Ph.D. thesis or Thesis A.C.G Viera, 'Matrix, orthogonal polynomials, with applications to autoregressive modeling and ladder forms', Ph.D. Thesis, Stanford Univ., Stanford, CA, Dec. 77 |

Format of the Cover/Title page of the Thesis

(Title of the Thesis)

Thesis

Submitted in partial fulfillment of the requirements of
BITS F421T/BITS F422T/BITS F423T/BITS F424T Thesis

By

(Author)

ID No. ()

Under the supervision of

(Name and Designation of Supervisor)

Institute emblem

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMUS

(Date)

Format of 'Certificate from the Supervisor'

CERTIFICATE

This is to certify that the Thesis entitled, _____
_____ and submitted by
_____ ID No. _____ in partial fulfillment of the requirement of BITS BITS
F421T/BITS F422T/BITS F423T/BITS F424T Thesis embodies the work done by him/her under my
supervision.

Signature of the Supervisor

Date:

Name

Designation

OPERATIONAL DETAILS FOR INSTRUCTORS:

The operational details for Instructors of the Thesis and Seminar courses are outlined below:

Thesis Course:

1. Please ask your student to supply their particulars to Head of Department in Proforma TS-1.
2. Please suggest a panel of Two examiners to DRC for evaluation of the Thesis. You are requested to inform the proposed examiners and obtain their consent. Efforts shall be made to choose one examiner from the panel. You may invite the proposed examiners for the Mid semester and other presentation components.
3. Details of the evaluation are given in the handout. The marks/grades obtained in each of the component should be entered in the Final evaluation form. The record should be kept ready for examination at a very short notice. The Final Thesis and Viva performance should be jointly evaluated by you and the Examiner appointed for this purpose by Departmental Research Committee (DRC).
4. After the Final Viva, One copy the Final evaluation form should be submitted to the Head of Department. The other copy of evaluation form should be retained by the supervisor.
5. The grades in Thesis are in terms of **A/A-/B/B-/C/C-/D/E**.
6. If the leave of absence exceeds SEVEN days in a semester the recommended final grade may be revised by the supervisor. Supervisors are requested to verify the number of days a student has been on leave or on approved field trips.

Routine matters

1. Every student has to sign his attendance regularly with his supervisor in the attendance sheet. The signed attendance sheet should be returned to the Head of Department along with the Final Evaluation Form.
2. A student should not take more than seven days of leave in a semester. The supervisor may directly sanction him leave. If his absence exceeds more than seven days his overall recommended grades may be revised by the supervisor.
3. If the performance of the student is below expectation and if he is not cooperating, the supervisor should hold discussions with him and counsel him on this aspect. If he still does not improve, a written warning should be given to him with a copy endorsed to Head of Department and Associate Dean, ARD.
4. Supervisors should send the recommended Mid-semester evaluation form to the Head of Department latest by 10th week. The recommended Mid-semester grade may be announced by the supervisor to his student directly.
5. For field trips of students outside Pilani, a complete plan indicating purpose, duration and place of work should be given to Head of Department in advance for his approval.
6. One copy of all evaluation forms sent to Head of Department should be retained by supervisor.
7. Student should be kept informed of his performance in various components of evaluation.
8. The supervisors are requested to adhere to the dates given in the Calendar of Events.
9. In FINAL THESIS REPORT specified formats of Cover/Title page, Supervisor's Certificate, have to be adhered. Thesis has to be word processed/typed on A4 size white paper. References should be cited in a standard manner. Title of thesis should be proper and should be indicative of the type of work.
10. Supervisor should check the contents of the thesis and sign the certificate page before sending it to the examiners.
11. Classify the Thesis topic in one of the Areas of Research given in the Bulletin.

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS

FIRST/SECOND SEMESTER 20 -20

MID SEMESTER EVALUATION FORM

Section I PARTICULARS (TO BE FILLED BY STUDENT AND RETURNED TO SUPERVISOR)

Semester _____ Session _____

ID No. _____ Name of Student _____

Section II EVALUATION DETAILS (TO BE FILLED BY SUPERVISOR)

| S.No. | Evaluation Component | Max. Marks | Marks awarded |
|--------------|-----------------------------|-------------------|----------------------|
| 1. | Viva –I | 15 | |
| 2. | Mid. Sem. Presentation | 15 | |
| 3. | Mid. Sem. Written Report | 15 | |
| | Total | 45 | |

Recommended Mid-semester grade **(A/A-/B/B-/C/C-/D/E)**:

Report (NC/I/W) , if any:

Date: _____

Signature of Supervisor

N.B. Supervisor should announce the Mid. Sem. Grade to his student directly and return the form to the Head of Department.

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS

FIRST/SECOND SEMESTER 20 -20

MID SEMESTER EVALUATION FORM

Section I PARTICULARS (TO BE FILLED BY STUDENT AND RETURNED TO SUPERVISOR)

Semester _____ Session _____

ID No. _____ Name of Student _____

Section II EVALUATION DETAILS (TO BE FILLED BY SUPERVISOR)

| S.No. | Evaluation Component | Max. Marks | Marks awarded |
|--------------|-----------------------------|-------------------|----------------------|
| 1. | Viva –I | 15 | |
| 2. | Mid. Sem. Presentation | 15 | |
| 3. | Mid. Sem. Written Report | 15 | |
| | Total | 45 | |

Recommended Mid-semester grade **(A/A-/B/B-/C/C-/D/E)**:

Report (NC/I/W) , if any:

Date: _____

Signature of Supervisor

N.B. Supervisor should announce the Mid. Sem. Grade to his student directly and return the form to the Head of Department.

FIRST/SECOND SEMESTER 20 - 20

FINAL EVALUATION FORM: BITS F421T/BITS F422T/BITS F423T/BITS F424T FIRST DEGREE THESIS

ID No. _____ Name of Student _____

Name of Supervisor _____

Title of Thesis (as on thesis) _____

I. EVALUATION

| S.No. | Evaluation Component | Max. Marks | Marks awarded |
|-------|--------------------------|------------|---------------|
| 1. | Viva –I | 15 | |
| 2. | Mid. Sem. Presentation | 15 | |
| 3. | Mid. Sem. Written Report | 15 | |
| 4. | Viva – II | 15 | |
| 5. | Final Thesis Report | 25 | |
| 6. | Final Viva | 15 | |
| | Total | 100 | |

Recommended Mid-semester grade **(A/A-/B/B-/C/C-/D/E)**:

RECOMMENDED FINAL GRADE (A/A-/B/B-/C/C-/D/E):

Report (NC/I/W), if any:

Date

Signature of Examiner

Signature of Supervisor

Semester

Name of Examiner

Name of Supervisor

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS

FIRST/SECOND SEMESTER 20 - 20

FINAL EVALUATION FORM: BITS F421T/BITS F422T/BITS F423T/BITS F424T FIRST DEGREE THESIS

ID No. _____ Name of Student _____

Name of Supervisor _____

Title of Thesis (as on thesis) _____
_____**I. EVALUATION**

| S.No. | Evaluation Component | Max. Marks | Marks awarded |
|-------|--------------------------|------------|---------------|
| 1. | Viva –I | 15 | |
| 2. | Mid. Sem. Presentation | 15 | |
| 3. | Mid. Sem. Written Report | 15 | |
| 4. | Viva – II | 15 | |
| 5. | Final Thesis Report | 25 | |
| 6. | Final Viva | 15 | |
| | Total | 100 | |

Recommended Mid-semester grade (**A/A-/B/B-/C/C-/D/E**):**RECOMMENDED FINAL GRADE (A/A-/B/B-/C/C-/D/E):**

Report (NC/I/W), if any:

Date_____
Signature of Examiner_____
Signature of Supervisor.
..
._____
Semester_____
Name of Examiner_____
Name of Supervisor**TS-1 Form****BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS**

PARTICULARS OF THESIS (BITS F421T/BITS F422T/BITS F423T/BITS F424T)

The student should correctly fill in this Proforma and submit to Head of Department within two weeks of registration.

Name of the Student _____

ID No. _____ Discipline _____

No. of units intending to register for (9 to 16): _____

Topic of the thesis: _____

E-mail ID: 1. BITS email ID _____

2. Non-BITS email ID _____

Phone Number: _____

Contact details of the Supervisor:

Name _____

Address (if off-campus): _____

E-mail id: _____ Phone Number: _____

Contact details of Co-supervisor/Mentor (if any):

Name: _____

E-mail id: _____ Phone Number: _____

Signature of the Student

Panel of Examiners (To be suggested by the supervisor(s))

| S.No. | Name of Faculty | Department/Div./Unit |
|-------|-----------------|----------------------|
| 1. | | |
| 2. | | |

Date

Signature of supervisor

(P.T.O)

OUTLINE OF FIRST DEGREE THESIS
(Attach extra sheet, if necessary)

Aim and objective(s):

Background of work:

Plan of work:

Bibliography & References:

Signature of student

Signature of supervisor

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI

**ATTENDANCE SHEET FOR FIRST DEGREE THESIS STUDENTS
FIRST/SECOND SEMESTER**

I. PARTICULARS

Name of student _____ ID No. _____ Supervisor _____

Hostel _____ Room No. _____

II. Attendance (Student to sign his initials)

| Month | DATES | | | | | | | | | | | | | | | | Total working days | Days absent |
|---------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------------|----------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | |
| Aug/Jan | | | | | | | | | | | | | | | | | | |
| | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | | |
| | | | | | | | | | | | | | | | | | | |
| Sep/Feb | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Oct/Mar | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Nov/Apr | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Dec/May | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: Supervisor may decide to keep this sheet with him or with the Department office and ask the student to sign on each working day before a particular specified time. This sheet should be returned to Head of Department along with the Final Evaluation Form.

Date:

Signature of Supervisor