Feedback of Faculty Members of the Department of Mathematics & Statistics
On
Interim Report of the Academic Review Committee

The following issues emerged during the discussions, on the interim report of the ARC, at the faculty meeting held on 6th, 9th and 19th March 2009.

1. In principle the idea of second degree is fine. However, the implementation guidelines must be spelt out.

2. **Duration of the 2nd degree:** The normal duration of the 2nd degree must be spelt out.

3. A common nomenclature for all 4 year academic program was suggested. For example: BS(discipline) such as BS (ME) or BS (Physics).

4. The existing minimum CPI and W/AP rules should be retained. However the pass credit option (PCO) should be revived.

5. In keeping with the objectives of producing global humane Indians, a few courses on Value Education (say through NCC, NSS) are desirable.

6. The credits assigned to the professional courses in the given templates are based on the assumption that there will be no tutorials. However, some departments may wish to continue with tutorials, amounting to a requirement of greater number of credits to complete the academic program. The minimum number of credits required to complete the academic program of a department should be left to the department.

7. **UGR1-UGR4**: A mechanism should be evolved so that only serious students are able to exercise this option.

8. There should be a requirement for minimum attendance. However, the students may get exemption, in very special cases, from the concerned instructor.

9. The time table for all courses, including department courses, should be centralized. This is particularly necessary with the introduction of minors and the second degree.

10. Non-intrusive course monitoring is not clearly spelt out.

11. The Department of Mathematics and Statistics will be able to offer only 2 modular courses.

12. It is not possible to cover the basics of Probability and Statistics in one modular course.

13. Tutorial sessions by senior undergraduate students based on payment should be encouraged.

The following are the responses to the questions posed for the department:

1. Possible minors by the department - this will be decided by the various groups. See Appendix-I

2. All compulsory department courses should be done in order to obtain the second degree.

3. No B.Tech(honors) degree.

4. No exit option. The present system is working well.

5. ESO 211 - Data Structures and Algorithms- should be the only compulsory ESO course for the Mathematics students.

6. It is not possible to introduce communication skills in a formal way. However, informally this could be achieved by ensuring that the students do take part in discussions in every course.

Appendix-I

Proposed Minors

I. *Minor in Scientific Computing (Linear Algebra)*

1. Linear Algebra
2. Principles of Numerical Computation
3. Numerical Linear Algebra
4. Applied matrix theory

II. *Minor in Scientific Computing (ODE)*

1. ODE
2. Principles of Numerical Computation
3. Numerical Solutions of ODE
4. Parallel Numerical Algorithms

III. *Minor in Scientific Computing (PDE)*

1. PDE
2. Principles of Numerical Computation
3. Numerical Solutions of PDE
4. Introduction to Computational MRI, MRS, and NMR / Parallel Numerical Algorithms

V. *Minors in Differential Equations (DE), Fluid Dynamics (FD), Mathematical Biology (MB):*

1. MINOR-I (DE-1)   : MTH407, MTH421, MTH424, MTH625.

2. MINOR-II (FD-1) : MTH423, MTH523, MTH662, MTH694.

3. MINOR-III (MB-1) : MTH603, MTH606, MTH661, MTH658.

4. Minor-IV (MB-2): MTH 606, MTH601, MTH762, MTH694

5. Minor-V (DE-2): MTH 421, MTH 424, MTH405, MTH656

6. Minor-VI (FD-2): MTH 662, MTH656, MTH630, MTH-693

VI. Minors in Analysis:

1. Analysis I
   Analysis II
   Distribution Theory and Fourier Analysis**/** Fourier Analysis**/** Functional Analysis

2. Analysis I
   Complex Analysis
   Fractal Interpolation and Applications/ Functional Analysis

3. Analysis I
   Topology
   Differential Geometry/ Algebraic Topology/ Functional Analysis

4. Analysis I
   ODE
   PDE

VII. Minor in Discrete Mathematics:

i) MTH 202 - Discrete Math,
(ii) MTH 302 - Logic,
(iii) MTH 204 - Algebra and
(iv) MTH 401 - Theory of Computation.

NOTE: At least one minor in Probability and Statistics will also be possible. However, the structure of that minor is related to academic review of two-year M.Sc. (Statistics) program and will be finalized after the review of two-year M.Sc. (Statistics) program is over..