Suggestions for Alternative Evaluation Methods for Semester II, 2019-20

1. Factors taken into account:

1. The senate has taken a considered decision to evaluate and award valid letter grades to all students, with limited freedom to students to convert some courses to audit. In view of this, it is necessary to explore available options to ensure as fair and as rigorous instruction and evaluation methods as possible.

2. Un-proctored evaluation options known to the current faculty community are limited: Individual assignments; take-home exams; viva-voce exams, and perhaps some other options. Most of these are intensive on time demand from the instructor(s) and are it is challenging to scale to larger classes.

3. When examinations are conducted, the responsibility to maintain fairness lies with all stakeholders: the teacher as well as the students. This point is to be specifically reiterated in the context of online evaluations or examinations. Just as it is critically important for the faculty to maintain fairness and integrity, it is equally important for students to maintain integrity and honesty so that each student gets awarded marks/grade based on his/her performance, and that they are fair to each other.

4. It is important to realize that owing to the uncertainties about the semester, stress created by COVID19 (health and financial), and other matters like floods, etc., a significant number of students are in a disturbed state. Realizing this is a very important first step in any decision-making process, and that since grading policy is the one that they are most worried about, it is even more pertinent with this decision. It is important that we recognize these issues in setting our evaluation patterns, going forward.

5. Students' internet access is of a varied nature - ranging from working high speed network, to absent access, with everything in between. There could be difficulty in conducting a timed evaluation. Institute is attempting to support students who do not have internet facilities with alternative ways, but there still may be challenges of intermittent connectivity.

In summary, it is important to maintain integrity, maintain academic rigour, but also be sensitive to the unique and challenging circumstances of the current situation.

2. Some suggestions for Modes of Evaluation

1. Set a paper with similar problems for all students (ensuring the same level of difficulty) with different data for different students. The above suggestion could be automated for evaluation on Moodle.

   a. Feasible for small to medium class size. May be possible for larger classes for some courses where data for the numerical problem can be randomized. If the evaluation is possible on Moodle then grading could be automated.

   b. Advantages: Copying is not a straightforward option for students. If Moodle or a similar platform is used then marks for correct final answers (or intermediate answers) could be straightforward and grading is consistent.

   c. Disadvantages: Effort required in paper setting and grading (if done manually) increases. Using Moodle for conducting exams will require training. Also, use of Moodle platform may present difficulty to students with limited internet connection and so either grace period or alternate mode of exam will be required for such students.

2. Personalised assignments (similar numerical problem, different data) with above execution methods

   a. Assignments usually require a longer time for completion and submission, copying is easier even if data are different: in fact students can discuss in groups and beat the evaluation.

   b. Risks different levels of difficulty for different students if problems are not very similar.

3. Take home exams: same advantages and limitations as 2 above. Could be followed by viva-voce also to limit copying (see point 4 below).

4. Viva-voce exams for individuals / groups by faculty members:

   a. Scalable to a limited extent depending upon the number of evaluators. Each evaluator can take viva for about 20-25 students in a 3 hour slot.

   b. Robust and least affected by limitations of internet services at students end.

   c. Questions can be adapted based on previous responses and a better evaluation of the level of understanding of the student can be made.

   d. Use of TA is not advisable since it is a dynamic mode of evaluation with suitable adjustment of the level of the questions to the answering ability of examinees. Repeating a fixed set of questions will make it predictable for students after a few evaluations. If TAs with high ability in the above regard are available, it could be a workable option.

   e. Cannot be of major weight due to time availability and type of questions that can be asked (long numerical & design type problems, etc. cannot be asked)

   f. Time consuming and may lead to subjectivity if there are multiple evaluators or if care is not taken. In group viva-voce, unless individual attention is given to each participant, grading could become skewed.

5. Pen-and-paper examinations:

   a. The process of the exam involves the question paper being provided using different means including email, VC software (Ex: MS Teams), upload to Moodle as an assignment a few minutes before the start time of the exam (say 5 min), etc.

   b. If using Moodle: the assignment can be created on an earlier date, with the due-date as the exam date and the due-time as the end-time of the examination plus a few minutes (10-15 minutes should do for small classes, and 30 minutes for larger classes).

   c. Students write the exam on plain paper, scan it using the cell-phone scan-to-pdf apps (Microsoft Office Lens; Adobe Scan, etc.) and upload to the pdf files to Moodle as submission of assignment or send as an attachment to email.

   d. Students should be told in advance what they need to keep ready before the exam: besides paper and pen, an internet connection good enough to download a few hundred kB of question paper and to upload a few MB of answer paper pdf; a scan-to-pdf app on the phone, etc.

   e. Limit on the file size that can be uploaded to Moodle or sent as an attachment to email must be known to the students, so that they can submit. If required, the response may be split into files of appropriate size and clearly communicated by the students. Present upper limit is 20 MB.

   f. Possible for all class sizes.

g. Can be made robust against variability of net availability by adopting multiple modes (Moodle, email, upload to drive/ cloud, Whatsapp, etc.) of question paper delivery and answer submissions by students. The alternative modes (may be in order of preference) must be communicated to the students well in advance.

h. Use of judgement by faculty can help identify late submissions due to internet problems from deliberate ones. "Strict" face can be used on necessity. The "strict" means how it is posed to the students. At the backend, we remain sensitive to possible difficulties students can face and decide appropriately on late submissions.

6. Evaluations for large classes:
   Split up large class into smaller groups (can help in online-proctoring), involve more associated faculty and TAs.

7. Homework Assignments:
   Assignments, are de-facto designed to work in an un-proctored setting, but with an implicit assumption of necessary work environment in remote setting,
   a. Design and assessment of assignment should take into consideration the inequity in access to resources (laptops/internet/books/TA help etc.) and to the working environment. Give deadlines that are flexible. Different modalities for submissions (Moodle, email, Whatsapp etc.) can be used judiciously.
   b. With the help of TAs, run clarification sessions for assignments; mailing-list/discussions (Teams, Whatsapp groups, etc.) can be used.
   c. Utilize automated evaluations as much as possible, and design ways to provide immediate feedback at the time of submission.
   d. Risks students employing unfair means - communicating strong action and follow through may be required.
   e. Unless the course students are ok, it may be preferable to avoid group assignments to minimize additional overhead of collaboration.

3. Communication/ recommendation from the Institute

1. All faculty members need to be briefed about the items 3-5 of section 1 above and requested to communicate with the students on behalf of the Institute. Making the students aware that the faculty members are also in the same boat as they are would reduce quite a bit of their anxieties.
2. It is expected that there may be delays in submission by students due to limitations at their end, and the course coordinator is expected to be accommodative of such cases by giving benefit of doubt unless it can be established that the intention of the student was mala-fide.
3. Some appropriate leniency in grading may be adopted recognizing that this semester is unusual, so evaluation could be less strict and more student-friendly. Also, it is important to tell the students this.
4. Having ensured this, the following could be the process for all examinations and evaluations:
   a) The faculty member conducts the examination with clearly laid down rules: closed (avoid as far as possible)/ open book/ notes; take home; time duration etc. and sticks by the rules from his / her end.
   b) The students are asked to sign an undertaking that they would write the examination honestly, abiding by all the rules of the examination. Similar undertakings can be employed with assignments as well. A recommended text of undertaking would be communicated to the students and faculty over the next one week.
   c) The Institute makes it clear to the students that in case a complaint of cheating is established to be valid, the punishments would be higher in severity compared to normal circumstances, and zero tolerance policy be announced, implemented and followed scrupulously. This is something the student community also wants us to do.