

# Innovative Step towards Quality in Faculty Recruitment Process

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**Abstract:** For success of any autonomous Engineering college, faculty members are the pillars of all academic processes. It is the collective responsibility of them to develop program specific curriculum, effective implementation of teaching-learning and evaluation process. A faculty member is expected to have knowledge of outcome based education (OBE), ICT tools, pedagogy features, innovative assessment methods along with a sound technical base, research attitude and confidence in delivering the contents.

The recruitment process of an assistant professor for such herculean task is challenging especially when there are a large number of eligible candidates. With inappropriate decision, there is threat to the efficiency and effectiveness of an institution.

An innovative decision for recent recruitment process in an autonomous institute involved three steps: Written-test for technical skills and other skills related to job responsibilities for all eligible candidates, presentations by shortlisted candidates on the topic of the candidate's choice and finally personal interview by the panel for shortlisted candidates.

Out of more than a thousand applicants selection of best suitable thirteen faculty members was possible due to this innovative step.

The feedback obtained from candidates, assessors, and persons involved in decision making are quite encouraging. Majority of them have expressed that the process and questions related to job responsibilities were useful to select best suited candidate and also to set right expectations of a role

**Keywords:** faculty recruitment, autonomous college, engineering education.

## 1. Introduction

In an autonomous institute it is the collective responsibility of faculty members of each department towards curriculum development, teaching learning and assessment processes. It is also required that faculty member to play a key role in inculcating research culture, which could be achieved through encouragement to students for hands-on activities or guidance for projects. Focussed efforts on the part of the faculty members help ; not only in creating very conducive atmosphere / academic culture in the institute but it also

moulds students as responsible members of society and make them readily employable. Hence role of a faculty member is very crucial.

The characteristics of a faculty member can influence the graduating generations and affect the culture of the institute. It is then apparent that having just a handful of dedicated faculty members would be highly insufficient to sustain the character of such an institute over a long period. In fact, any inappropriate decision during new recruitment can lead to threat even the existence of the institute; thus making selection process of new faculty members is very critical.

The routine process of recruitment as domain specific written test and interview has many flaws in selecting appropriate candidate.

The paper discusses implementation of innovative steps in recruitment process with quality as a focus. Section 2 discusses Motivation and research questions, section 3 proposes new recruitment process with section 4 the implementation details, section 5 presents data gathered and feedback obtained, with lastly section 6 discussing opinions of experts and future scope.

## 2. Motivation

To keep pace with the global standards of engineering education every institute should strive for quality in academic processes. The academic processes in an autonomous engineering college are the soul of the system. Outcome based education is one of the measures of assurance in quality of graduates and academic culture of an Institute

In teaching learning processes, faculty members are expected to focus not only on technical contents of a course but also on ICT tools and pedagogy features for learners to learn effectively. It is also expected that faculty members will exercise appropriate tools of assessment so that performance of students reflect correctly on intended learning outcomes.

Hence in general it is need of the institutions and departments to have competent faculty in technical field who is also having the right attitude for academic processes, self updating through research, consultancy and dialog with industry.

In the recruitment process many times there are difficulties in judging the right candidates in interviews from a large number of applicants.

It is normally a practice to conduct a written test prior to interviews. This is primarily done to shortlist candidates for interviews. The shortlisted candidates appear for technical and personal interviews by a panel of experts and based on their performance in the interviews they get selected for the post.

The test conducted is normally a multiple choice question (MCQ) test in their domain of study. Shortlisting candidates based on such test may enable institute to choose better candidates only on technical aspects. But it is very difficult to judge a person's capability and attitude in the changed paradigm of academic processes just in interview of duration 15-20 minutes. Departments need to include newly recruited faculty members in most of the academic activities including paper setting, assessment, accreditation etc. which may need some training.

When this scenario was seriously thought in an autonomous institute in University of Mumbai with the following questions in mind of the core team:

RQ1 : What is the method by which we should be able to recruit best suited candidate while giving fair opportunity to all eligible candidates ?

RQ2: What is the extent to which the designed process will be acceptable to all stakeholders?

In literature searched on process in recruitment and selection, best practices and emerging trends , authors have identified best practices in tests. They are as

- Tests must match the essential requirements of the job.
- Tests must be void of any bias or indirect discrimination
- 'Think beyond just hard skills, knowledge and experience. The right attitude may be one of the most important factors in determining an individual's success in a job.' [1]

Keeping this in mind an innovative recruitment process was designed and implemented for new entrants for the post of Assistant Professor in all departments.

### 3. Faculty Recruitment Process

The proposed recruitment process has following steps:

1. Requirement analysis from various departments
2. Advertisement for the posts
3. Receiving applications
4. Scrutiny of applications for eligibility as per norms of university
5. Written test
6. Presentation of shortlisted applicants
7. Technical and personal interview
8. Feedback from stakeholders

Since the steps from 1 to 4 are very routine steps and carried out as per norms of University of Mumbai authors do not feel the need to discuss them in great depth; whereas step 5, 6 and 7 are the main focus of the innovative process. Step 8 is useful for analysis and finding answer for RQ2, which will lead to improvements in the proposed method.

#### i) Written Test

The main aim of conducting a written test is to have judgement of capabilities of applicant in all aspects.

The test paper was designed in two sections

- First section having 20 % weightage with aim of testing applicant's technical abilities with traditional MCQ type questions.
- Second section having 80% weightage with descriptive questions for testing other skills of applicants.

The second section will have multiple questions giving wide choice to the applicants. The duration of the test is three hours, which gives sufficient time for applicants to articulate their answers and present. The questions should be generic and any applicant will be able to write answers related to their topic of interest.

The applicants will be given a brief idea about the nature of test by a letter well in advance.

#### ii) Presentation of Shortlisted Applicants

The aim of the presentation is to assess the capability of applicant to communicate ideas to mass with proper coordination of content and time management. Applicant is asked to give a presentation on a topic of his / her choice hence the aspects like confidence, body language of applicant can be judged.

#### iii) Personal Interview

This is the final step in which panel having subject experts , Management representative , administrative heads conduct technical and personal interview of the shortlisted candidate. Different experts judge the applicant from different perspective through question answers during the interview.

### 4. Implementation Details

Following are the details of implementation in recruitment in 2017-18.

1. Covering letter for all applicants explaining the process of recruitment and giving a fair idea of the expectations of the institute was sent before announcement of the written test.
2. A written test was conducted for all eligible applicants. Highlights of the question paper are as

Section 1: contained domain specific MCQ questions with 33 % extra choice available to applicants.

Section 2: Since the questions are generic for all applicants irrespective of the branch, they were asked about the area of specialization and write answers based on the same area.

It contained descriptive questions with approximately 50% extra choice for applicants to write answers. The questions in this section were framed so as to assess knowledge and skills of applicants in

- Articulation of Course Outcomes and efforts for their attainment
- Program outcomes
- Question paper setting
- Writing project proposal
- Attitude for self-development and use of knowledge
- Utilizing industry exposure to academics

Some sample questions asked in this section are as

- In your perspective, what are the qualities that a graduate of your discipline should have at the end of four years of engineering? Describe any two aspects. Suggest methods / activities for acquiring these

qualities. ( Understanding of Program Outcomes and measurement)

- List any Training Programmes / Workshops / online courses /Internships etc. attended by you ( in last 5 years) to 1.Update your technical skills 2. Update teaching -learning / evaluation skills. What was the outcome from the above courses? How is it useful in enhancing teaching learning process?Elaborate. ( Attitude for Self Development)
- Frame 2 questions worth 5 marks each for written examination on the contents of the course chosen with marking scheme.(Question paper setting)
- Articulate a design problem in the area of specialization which may also be treated as Mini project/ Course Project/ B Tech / M Tech Project Define scope and its deliverables(e.g. Hardware/software modules )
- Relate your experience in the industry to contribute in following academic processes of the college  
1. Development in Curriculum 2.Methods of content delivery / assessment 3. Development of Laboratory experiments (Utilizing industry exposure to academics)

In most answers the thought process and articulation skills of the applicant were judged.

3. Answer papers were segregated as per area of specialization mentioned by applicants. Assessment of question papers was completed by senior faculty members of the respective departments with the help of common rubrics developed question wise. This ensured uniformity in the assessment.
4. List of applicants scoring minimum of 50% marks was prepared. These candidates were shortlisted for presentation stage.
5. Presentations were conducted with prior intimation to shortlisted candidates. Common rubrics for assessment of presentation were used by all evaluators which was focussed on flow and relevance of presentation, time management, diction, audibility and overall impression.
6. Shortlisted candidates were called for interview by panel of experts

#### Contribution from stakeholders

In the initial thought process opinion of senior academicians was taken. A core committee of four members prepared question paper after much iteration of discussions.

Senior faculty members of the department were involved in assessment of papers as well as evaluation of presentations. Panel of experts was appointed as per norms of University of Mumbai recruitment process for the interview.

Lastly applicants shortlisted at various stages, were involved in the whole process.

#### 5. Data gathered and Results obtained

Table 1.data related applicants in the process

Category	COMP & IT	ETRX & EXTC	MECH
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No of posts available	2+2	3+4	2
No of applicants	357	575	167
No of applicants appearing for test	124	222	56
No of applicants shortlisted for presentation	65	130	30
No of applicants called for interview	43	55	20
No of candidates selected	4	7	2

The feedback was collected from the stakeholders; separate Google forms were distributed to shortlisted applicants and assessor faculty members after the completion of the whole process with focus questions related to the process and RQ2 in mind. Some questions in the feedback were 5 point likert scale questions , whereas some were descriptive answers for their views / comments.

#### Opinion of Applicants was collected on

1. Inclusion of Branch Specific MCQ questions and descriptive questions in the test paper.
2. Questions reflecting the job responsibilities of a faculty member
3. Appropriateness of three stage recruitment process
4. Suitability of process for varied experience of candidate
5. Relevance of questions for assessing involvement in academic process
6. Opportunity for candidate to express focused efforts for self-development as a teacher
7. Usefulness of Presentation

#### Opinion of Assessors is collected on

1. Inclusion of Branch Specific MCQ questions and descriptive questions in the test paper.
2. Questions reflecting the job responsibilities of a faculty member
3. Judgement of the understanding of applicant about teaching , learning and evaluation methods from questions
4. Suitability of the questions for the applicants with varied experiences
5. Opportunity for candidates to express focused efforts for self development as a teacher
6. Rubrics made for assessment
7. Usefulness of Presentations
8. Usefulness of the process overall.

Total 67 applicants and 19 assessors participated in the feedback and responses were obtained.

From feedback of applicants and assessors it can be clearly seen that about 49% applicants found inclusion of Branch specific MCQs innovative and significant and almost all applicants did not feel the need to increase weightage of

them; whereas about 38% assessors feel the need of increasing branch specific MCQs. Also 90% applicants and assessors agree that the questions were reflecting the job responsibilities well. Almost 73 % of assessors feel that the process overall was useful. The feedback obtained overall answers RQ2.

Table2, Table 3 and Table 4 tabulate the opinions of applicants and assessors on the above points.

**Table2. Opinion for Quality of Branch Specific MCQ**

	Applicants %	Assessors %
Innovative and significant	49.3	21.1
Appropriate	22.4	31.6
MCQ weightage should be increased	16.4	36.8

**Table 3. Opinion reflecting Job responsibilities**

	Applicants%	Assessors%
Strongly Agree	71.6	52.6
Somewhat Agree	20.9	42.1
Neutral	3	5.3
Disagree	1.5	0
Strongly Disagree	3	0

**Table4. Feedback of assessors on usefulness of the process**

	Assessors%
Strongly Agree	42.1
Somewhat Agree	31.6
Neutral	21.1
Disagree	0
Strongly Disagree	5.3

**Experience and opinion of interviewers**

All experts on panel of selection appreciated the whole process as it covers all aspects of the faculty role in the new context of teaching and learning. The awareness created about the expectations and the weightage given to evaluation or assessment skills of a faculty member was highly appreciated.

Dr Daruwala, who is Dean Academics at a reputed Government college and panel expert, suggested changes in question paper to cater to candidates who are new in the teaching field but very sound in technical aspects. Overall he opined that “On the whole it is a novel experiment to get the best faculty.”

**6. Discussions and future scope**

From the feedback of applicants it is clear that they found the process innovative and relevant from the point of job profile. Since the applicants were initially informed about the nature of the test, they were prepared for the process.

From the feedback about whether the test was suitable for candidates having varied experience, most of the applicants opined positively as there was an opportunity for all types of candidates.

The opinion of panellists also was very encouraging for the process. Hence we infer that RQ1 that is the method by which we should be able to recruit best suited candidate while giving fair opportunity to all eligible candidates is satisfied.

For every stage in the process, applicants participated with enthusiasm, may it be writing elaborate test paper or presentation. Also the feedback received from applicants irrespective of their selection and their opinion about the process clearly indicates that designed process is acceptable to all stakeholders. Hence RQ2 is satisfied.

Some applicants showed a concern about the difficulty of paper for candidates without any prior teaching experience Applicants themselves, who may not have gone through innovative pedagogy during their education, need to get introduced to new techniques and adapt to the needs of millennial learners. With this kind of involvement of teachers, better engagement in classroom and possibly better learning can be achieved. Hence it is felt that creating such awareness in faculty members is the need of the day. Some training or certification course on education technology, added in master’s degree will enable teachers to be better prepared for this kind of selection process.

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