

# Automated TMA Generation and Assignment Banking System

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## Background

Assessment and evaluation is an integral part of any teaching-learning process. Different tools and techniques are adopted for evaluating the performance of the learners. In IGNOU, the process of evaluation includes self assessment through in text questions, Tutor Marked Assignments (TMA), six monthly Term-End-Examination or through On-Demand Term end Examination. TMA is one of the important components of the evaluation system. All the courses have a component of assignments called TMAs. Students are required to complete certain assignments for completing their courses. Faculty and course coordinators are required to prepare new sets of assignments every year.

## Need of the Innovation

Every time new sets of TMAs are to be prepared by the faculty which takes lot of their time. Moreover, setting up of assignments is a regular exercise which has to be done twice in a year. Over the years the number of courses has increased to more than 3000 and for all these courses new sets of assignments are to be prepared every time. In this process, every time lots of time and effort of the faculty is consumed in setting, editing and moderation of the assignments. If it is got done by the external experts, faculty has to pursue with them to get the work done in time, which is not only costly but time consuming also. Because of it, many a times it becomes difficult to provide TMAs in time to the learners which creates problems. Keeping it in view, idea came to develop an assignment banking system and to develop an application which could generate assignment test papers automatically as and when required. Thus, the scheme of automated TMA Generation and Assignment Banking System was conceptualized in 2012.

## Description of the Innovation

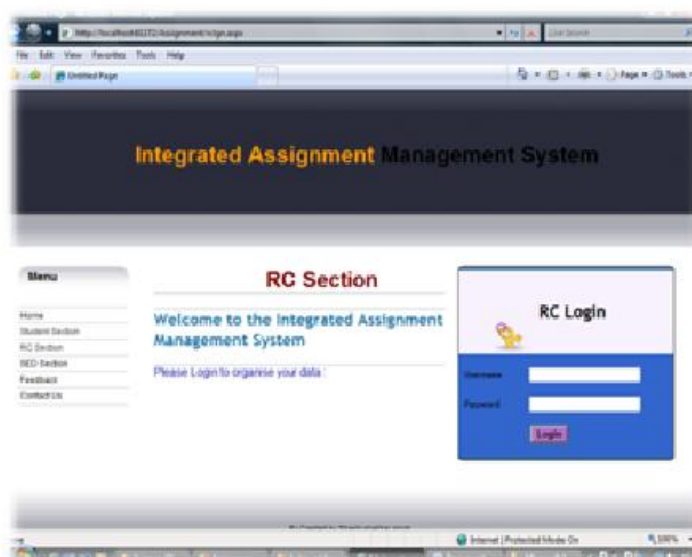
The scheme of Automated TMA Generation and Assignment Banking System had mainly three components – Development of a software for Online Authoring of Assignments, software for generating TMA Test papers and Development of course wise Assignment Bank.

The development of software for Online Authoring of Assignment Items and TMA Test paper generation was done in-house in NCIDE. The software had the facility of Online Item Bank Management System, Automated TMA Generation facility by the faculty, and Administrator Control system.

Course wise Assignment item bank was developed by using the available question items from different sources and also getting new items developed by the faculty and external experts. All the items were coded in terms of course or subject area, block, unit name, topic, subtopic, type of question, marks, etc. The coded items were then computerized and converted into database. It was an ongoing process. The entire database was to be made available online in encrypted form to be used by the authorized faculty.

Maintenance and updation of the question bank was a continuous process, because with the passage of time many question items become outdated and need to be removed and many new question items need to be added to the question bank. Therefore, the software

has a provision for adding, updating and modifying the questions in the Assignment Bank Online by the concerned faculty.



## Innovative Features of the Innovation

The concept of designing and developing Automated TMA Generation and Assignment Banking System was itself an innovative scheme. However, the innovative features of the entire scheme are as follows :

- It has a provision of developing online database of the assignment items in various courses.
- Faculty is given a facility for instant generation of course wise assignment Tests whenever they require.
- It has a provision for online authoring, adding and editing of assignment items by the faculty.
- Students can download course wise individualized TMAs from anywhere anytime. They need not to wait for assignments to come from the university.

## Achievements

The scheme of Automated TMA generation and Assignment Banking System was started as an internal project with one programmer to develop software and one consultant to coordinate the development of assignment banks. First version of software was developed in 2013. It has Registration Module, Item Authoring Module, Test Paper Generation Module backed by a database of questions. For trial purpose, a sample Questions/Assignments Bank having around 1650 questions for 30 Courses covering 6 Programmes was developed as per the blueprint and design of the Test Papers.

## Applications and Uses of the Innovation

The scheme of Automated TMA generation and Assignment Banking System could be highly useful in generating the TMAs as and when required by the faculty. If needed a multiple sets of TMAs could also be generated by the faculty. The database of different types of questions in digital form specifying different parameters of each questions, would help us in developing a digital repository of different types of question item for different courses. Once developed, it will be useful for future for a longer period.

## **Way Forward**

Automated TMA Generation and Assignment Banking System has a potential to revolutionize the assignment generation, submission and evaluation system in the university. Once it is implemented, university can do away with the present system of assignment preparation. Individualised assignments can be generated instantaneously leaving no scope for copying from each others' assignments. Possibility of getting solved assignments from market will also be minimised. The scheme could be extended for online submission of the assignments. To begin with, it could be tried in case of certificate and diploma level programmes. In future, an Online System for submission and tracking of assignment marks may also be added to this system. Thus, it could lead towards an Integrated Assignment Management System.

## **Coordinator and Innovator**

**Dr. Oum Prakash Sharma**

**Period : 2012-2013**