



## Recent Trends in Digital Evaluation of Answer Scripts as a Mark of Examination Reform

Subhashree Basu<sup>1</sup>, Swaraj Kumar Sarkar<sup>2\*</sup>

<sup>1</sup>Assistant Professor, Department of Physiology, Tamralipta Mahavidyalaya, Tamluk – 721636, India

<sup>2</sup>Controller of Examinations, Brainware University, Kolkata – 700125, India

Email – <sup>1</sup>sbasu@tmv.ac.in, <sup>2</sup>swaraj\_1981@yahoo.co.in

\*Corresponding Author: Dr. Swaraj Kumar Sarkar, Controller of Examinations, Brainware University, Kolkata – 700125, India;  
e-mail – swaraj\_1981@yahoo.co.in

**Abstract:** Evaluation of answer scripts is an integral part of assessment process. This study indicates the advantages of digital evaluation system instead of manual process. The study also detailed on digital evaluation model with additional features of coding-decoding system for fair, consistent and unbiased valuation of answer scripts as a mark of e-governance in assessment system.

**Key Words:** Examination, coding-decoding, digital evaluation, e-governance.

### 1. INTRODUCTION:

Assessments of answer scripts are an important part for examination process which helps to measure the progress of a student perusing a specific curriculum. It is a time bound process initiated after the examination. Generally, the sealed answer scripts are handed over to the respective examiner for evaluation purpose. Examiner evaluates the answer scripts and put their obtained marks against each question number at the specific portion of front page (*i.e.*, caging of marks). In a traditional system, the office of the Controller of Examinations (CoE) of a higher education institution provides printed award list for noting total obtained marks for each candidate belonging to each course. In this system, students are identified by the examiner through their Roll Number and Registration Number. The National Education Policy (2020) signifies the role of Information and Communications Technology (ICT) to improve the modern education system [1]. The reform in evaluation process through technological interventions is also a major thrust area of the National Education Policy (2020). The present study deals with the detail plan for development of Information and Communications Technology (ICT) based digital evaluation system enabled with automatic coding-decoding process for hiding candidate's identity during assessment.

### 2. PLAN OF DIGITAL EVALUATION ALONG WITH CODING-DECODING SYSTEM

The plan for implementation of digital evaluation for assessments of answer scripts along with coding decoding system is framed in two different tables (*i.e.*, Table 1 and 2).

The Table 1 explains detail process of coding of the course wise collected answer scripts from respective examination center. The answer scripts are scanned by using automatic fast scanner commonly known as Automatic Document Feeder (ADF) and saved as .pdf with a specific Reference ID as per the given instruction. The Reference ID will be tagged with Course ID along with Roll number and Registration Number of a candidate. The file (scanned .pdf) is now prepared with devoid of any identity of a candidate. After completion of coding process, the CoE allows the specified examiners (as per recommendations of respective Board of Studies) to evaluate answer scripts through their specific Log In. During evaluation, examiner Logged In into the portal through One Time Password (OTP) validation (via e-mail/ mobile number) and evaluate the answer scripts. The portal should be user friendly with all accessories for marking, making notes for future reference *etc.* The examiner put their marks on specified panel in the portal. After submission of all marks including attempted or non-attempted questions, examiner is allowed to submit the answer



script through portal. The answer scripts are not ready for scrutiny. CoE allows the scrutineer for scrutiny of evaluated answer scripts.

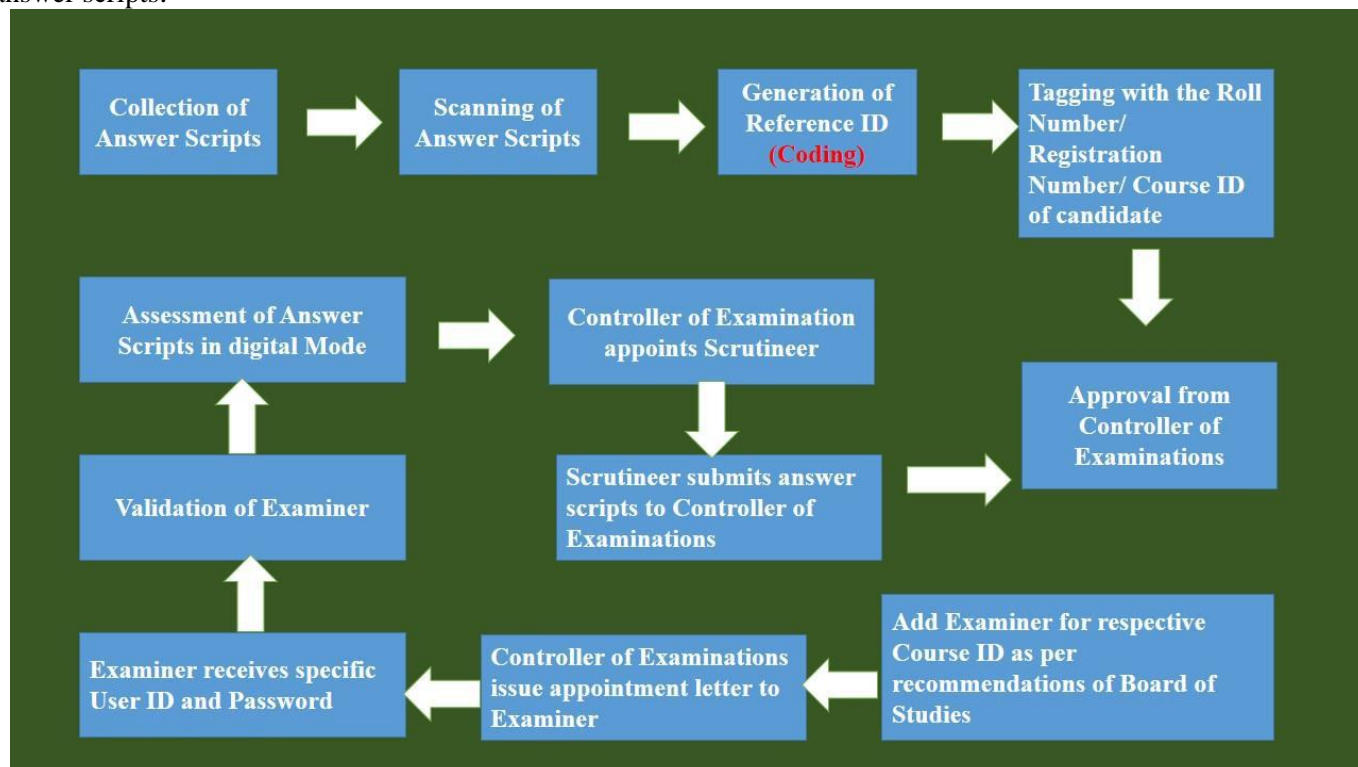


Table 1: The flow chart indicates Coding process of answer scripts during digital evaluation.

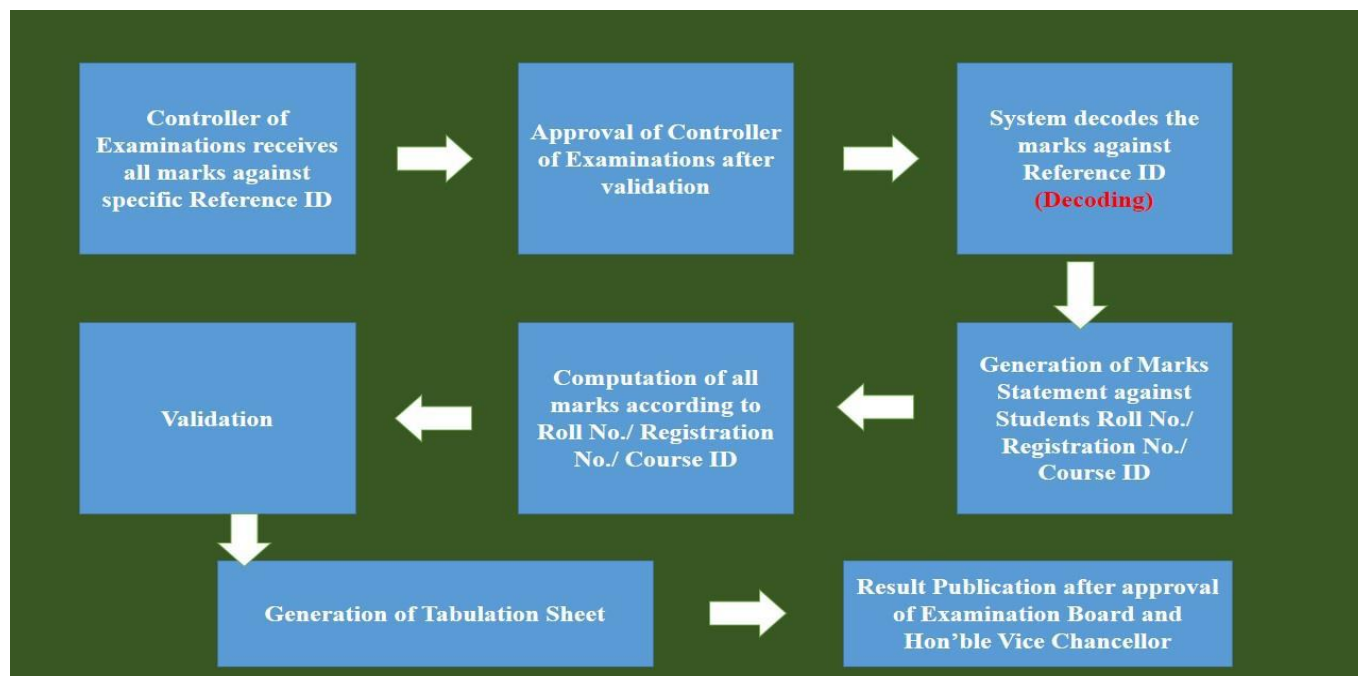


Table 2: General outline of Decoding process and generation of marks statements after digital evaluation.

The Table 2 detailed the process of decoding method for procurement of course wise marks against each Roll number and Registration number. The generated marks statement include the minimum details required for result processing *i.e.*, course name, course id, students name, roll number, registration number, marks obtained. It may be customized as per the requirement. The marks report finally approved by the CoE after careful verification and processed for generation of tabulation sheet where all the marks components are incorporated [*i.e.*, marks of internal assessments, projects, sessional papers, internships, attendance *etc.* along with course wise marks obtained at term end semester examinations].



### 3. DISCUSSION:

During the recent years, an increase interest on automatic digital evaluation system in examination process has been noticed especially after Covid-19 pandemic [2]. Adoption of ICT based digital evaluation system for assessments of answer scripts make the process more unbiased, consistent and error free. Subsequently, the system generated question wise marks statement (*i.e.*, data) is also helpful to assess the student's attainment level in a very short time which is also an important criterion for NAAC accreditation. According to National Education Policy (2020), there is a keen relationship between education and technology *i.e.*, proper education plays a critical role for development of indigenous technology while technology helps to improve educational process and outcomes. Therefore, further studies are required to develop a detail software requirement specification (SRS) for implementation of digital evaluation in education system at low cost level.

### Conflict of Interest:

Authors did not have any conflict of interest regarding this work.

### Acknowledgements:

Authors are thankful to **Shri Phalguni Mookhopadhaya**, Hon'ble Chancellor, Brainware University, West Bengal, India for his encouragement throughout the study. We are also grateful to **Prof. S. K. De**, Former Vice Chancellor, Mahatma Gandhi University, West Bengal, India for his kind advice and guidance.

### REFERENCES :

1. National Education Policy (2020), Ministry of Human Resource Development, Govt. of India, pp. 56 – 58.
2. Zhang, Y., Chen, L. and Min. C. (2020) Going deeper: Automatic short-answer grading by combining student and question models. *User Modelling and User-Adapted Interaction*, **30** (1): 51-80. DOI:[10.1007/s11257-019-09251-6](https://doi.org/10.1007/s11257-019-09251-6)