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Re-interpreting Assessment: Society, Measurement and Meaning

Paper

By

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Abstract: The primary goal of public sector institutions of higher education is to provide the opportunities for the talented and deserving youth of the country. However, with the ever-increasing population growth rate and the corresponding increase in the number of students seeking admission in state-run institutions, specially those offering professional programmes, the need has arisen for selection procedures to be streamlined. Consequently, high stakes tests are being conducted for gate-keeping purposes (McNamara, 2000) specially for undergraduate programmes. Most of the public sector institutions in Pakistan do not use technology to conduct the high stakes admission tests, since valuable and scarce resources have to be efficiently utilised for the academic processes. Nonetheless, these tests meet the necessary criteria of validity and reliability.

Innovative practice of conducting high stakes test for tertiary education: A case study from Pakistan

Introduction

'My son, you'll become an engineer or a doctor one day, won't you?' One hears such conditioning from parents of lower and middle-income groups addressing their very young children. Globalisation has created its ripple effect in most countries, especially in regions that fall under Kachru's (1995) 'expanding circle'. Therefore, for employment opportunities, empowerment and socio-economic growth, working towards a degree, specially a professional one, for employment and socioeconomic uplift of individual families is a high priority for young people in many South Asian communities including Pakistan. The motives of young people for getting higher qualifications are instrumental rather than integrative. Most of them are not at all interested in self-development, or knowledge acquisition, or in enhancing their soft skills. Endeavours towards getting higher qualification and therefore better jobs are usually present in most cases, even when the socio-economic background of the family is fairly stringent. In such a situation where, regardless of family's economic status, more and more applicants seek entry into professional degree programmes, there is a dire need for the applicants to undergo the stress of high-stakes tests, e.g. Admission / Entry (and similar nomenclatures). Such tests are primarily used for entry into undergraduate programmes, specially in under-resourced/ public sector institutions in many developing countries.

This paper aims to discuss a case of high stakes tests conducted in a Pakistani public sector specialist university. It presents the national and institutional policies regarding the status of entrance tests, as well as, the design and administration of Entry Test (ET). The Entry Test conducted without technological support or the concerned authorities being aware of the Thinking Skills Test (Cambridge), nonetheless meets the necessary criteria of validity and reliability through its conceptual design and administration.

According to Coombe (2005), citing Shohamy, Donista-Schmidt & Ferman (1996), Loschert (2000), Wall (1997), Weir (2005), high stakes (and low stakes) tests have washback effect, the degree of which varies over time in accordance with the status of the test, the language being tested, the purpose of the test, the format of the test, and the skills tested. Coombe adds that more recently such tests have been used in various contexts to measure, monitor, and improve the quality of teachers and students. High-stakes tests under various nomenclatures are now fairly commonly used in Pakistani higher education institutions for nearly one and a half decades. The official decision was taken in 1998 by the governor of Sindh by a decree (The governors of provinces are also chancellors of all public sector universities in their respective provinces. In the case of Sindh, the chancellor was an ex-army officer who was unwilling to accept totally that universities are autonomous bodies.)

Description of background

Pakistan, a country of 170 million people most of who live in rural settings, has an official literacy rate of 38 per cent, and is a signatory of the EFA Initiatives. However, as per media and USAID-generated reports it is still falling behind in its goals, in spite of the Social Sector Reforms (including education and health). The reasons for this situation have been discussed in USAID-generated evaluation reports (specially regarding utilisation of grants for primary education in Pakistan, 2003, 2005, 2007). Higher education in Pakistan has received a great deal of attention in the past half decade and efforts have been made to plug the gaps through a number of landmark initiatives including ELT Reforms Project. As per government policy, the medium of instruction is English, especially for science and commerce education from secondary to postgraduate level, as well as, for research activity. An important gap relates to the teaching and learning of English, adequacy and availability of EAP materials, and teachers' preparedness to deliver such courses. Studies (published and unpublished) have stated that the language policy issue in higher education in Pakistan has not been adequately addressed by the various education commissions set up by the government. Nevertheless, the official policy since 1947, with regard to the medium of instruction for Higher Education has been English (GoP Report 1999; Haque, A.R., 1983; Hoodbhoy 1998; Malik 1996; Mansoor, 2005, 2003; Rahman 1995,1999).

The policy regarding universal access to primary education in Pakistan has not been met in nearly sixty decades, as has been mentioned in UNESCO and World Bank reports (2005, 2006). Access to higher education in public sector institutions has had to be 'controlled' in view of limited resources. The introduction of Entrance / Entry Tests was subsequent to Pakistan becoming a signatory of the Jomtein conference and Education for All Initiatives (1995). The Federal Education Minister announced (1998) that all public sector professional / specialist universities would be introducing entry tests for undergraduate programmes. The directive sent out to all public sector institutions by their respective chancellors (provincial governors) to conduct entry tests was accepted perforce with certain provisos as in the case under discussion here (DAWN, Dec 5, 2005; October 01, 2006)

From the perspective of tertiary level of education as the title of the paper suggests, it needs to be mentioned that there are 113 public and private sector universities in the country, including the specialist institutions imparting education in the areas of business administration, medicine and allied services, engineering and technology, and agriculture. These 113 institutions are **not equally** distributed across the country, geographically speaking, since many of them are located in the province of Punjab (contradiction in terms- how can they be equally distributed and yet located mostly in the Punjab province). Boards of secondary and higher secondary education are located in each province and follow their own textbooks developed keeping in view the objectives of the national curriculum, revised in 1997. The students completing the higher secondary certificate from the different institutions cannot be said to at par with each other collectively; in addition, the principle of individual difference is very evident.

In all the public sector universities and a handful of private sector institutions, there are reserved seats for students applying from across examining boards and provinces. Revision in the curricula for higher secondary certificate is a fairly recent phenomenon, and changes have not been properly implemented through teachers and examiners' training programmes. Resistance to change is also fairly deeply entrenched in society. Parents from lower income groups who are motivated to educate their children, specially in the less-expensive public sector schools, colleges and universities are equally resistant to changes purely for financial reasons. Curricular changes at any level of education, though a cyclic process, is not followed according to the book in our context. At the university level, changes/revisions/amendments in specific subjects are developed and proposed at the department level that are then ratified by the Boards of Faculty, Academic Council, and the Senate. However, such changes are shared at the national level by the Higher Education Commission and changes acceptable to the majority / influential members are proposed for all public sector institutions. However, not all public sector university teachers and administration are willing to accept or introduce change because of various reasons.

As Richards (2001) and Richards et al (2001, p.1) citing Bailey (1992) state, change can refer to many things including knowledge, beliefs, attributes, understanding, self-awareness and teaching practices. Northcote (2005) in her doctoral thesis, says that 'The quality of teaching and learning in tertiary education contexts is influenced by many factors including the educational beliefs of the university teachers and students who teach and learn in such contexts.' Parental resistance to change is due to the cost factor primarily, and from teachers the resistance is due to efforts involved; while from the students it has more to do with the dependence on past exam papers, class notes etc handed down from siblings, cousins, friends and neighbours. In the case of Pakistani teachers there is very negligible field data available regarding the list of factors cited above by Richard et al, and Northcote.

Rationale for Entry test

Until the mid -1990s premier institutions, specially those offering professional programmes, were employing one particular Business School in Karachi set-up with the support of Wharton Business School more than four decades ago, to conduct admission tests. But the institution under discussion did not do so for ideological reasons. However, in 1996 the Chancellor of public sector universities in the province of Sindh (who was also the governor of the province) decreed that an entrance test was to be administered by all public institutions of higher education especially for professional undergraduate programmes. There was a mixed response to this initiative, but the University under discussion here decided to use the Entry Test **for sifting purposes only**, and thus circumvent corrupt practices, such as **manipulation of test scores and interviews scores**, as well as, **unfair enrolment of nominees on political and other grounds**. Hence, the University agreed to conduct the Entry Test (ET) independently, and to grant admission to only those applicants who had been sifted through the ET. This decree of the Chancellor led to the mushroom growth of coaching centres that sprung up almost overnight to prepare students for the entry tests for various institutions.

- a. Like other public sector universities in the country, this University too has its tried –and- tested admission criteria that include reserved seats (under their own merit) as well as on self-finance basis for children/wards of teachers and employees and servicemen. Therefore, the statutory bodies arrived at the decision to (i) give no weightage to the Entry Test in order to keep the relative merit unchanged for the students who have been examined by any Board using the same curriculum content and similar Exam papers. Thus, the ET was planned to be used for weeding out students whose qualifications are not genuine, as well as check the level of real knowledge and skills in English, Math, Physics and Chemistry that was tested in the Board examinations a couple of months prior to the Entry Tests. (ii) The Entry Test (ET) items __ 100 MCQs __ would carry equal weight. There was a debate about adding value to the sections __ (each comprising 25 items and 25 marks)__ on English and Math, although all subjects are equally important, as the children / wards of

employees and others could be at a disadvantage. (See selections from sample paper attached here as Appendix A I.) There were some assumptions worth verifying, namely that

- b. some Boards were presenting inflated results and their students' individual transcripts did not reflect their real performance;
- c. students who were from Karachi Board were generally academically sounder than their counterparts from other Boards in the province;
- d. students who secure A grades are by and large worthy of the marks they secure in the sciences and math if not in English; and
- e. even if applicants attended coaching classes before appearing for the ET, they were sure to have learnt something additional.

Assumptions (a) – (c) have so far been borne out to be correct, though there is as yet no data for (e). Also, the admissions are now totally free of all manipulations/coercions as the ET has helped to grant admission to candidates on merit alone. At present, the ever-increasing number of children of teachers and employees are of better calibre as they too have to pass the ET in order to be eligible for the limited reserved seats.

However, the ET does not adversely affect candidates from any other Board besides Karachi, as seats have been allocated Board-wise.

Test design and implementation

The Chairperson in charge of Admissions (past and present), is also Chairman of the Math Dept. The previous incumbent devised the format of the test and the system has been further refined by his successor. In an unpublished Annual Report (to the Senate) the Vice Chancellor wrote, "I indicated my willingness to introduce the Entry Test only if the N.E.D. University were allowed to design and organise it without any outside interference... (and) not to assign any weightage to the test and to let each candidate take one copy of his answers home _ factors which ensured complete transparency and literally eliminated all adverse criticism." The decision was made that test items were to be designed to re-confirm students' knowledge and skills at the pre-university Board examinations (Higher Secondary certificate). Only a few fulltime faculty members, known to be very dedicated to their teaching at the University only, were invited to prepare 200 test items for each of the four subjects, namely, English, Math, Physics, and Chemistry. Thus the initial Test Bank comprised 800 items in all from which a select committee shortlisted the items to be included in the test booklet. (This has been the practice since that date; however, items are being added to the Test Bank on an annual basis.)

There is a test booklet (somewhat similar to that for TOEFL/IELTS, etc) containing the question items and a carbonised answer sheet wherein the carbon sheet belongs to

the candidate. Overhead transparencies are prepared as answer keys which fit as overhead projector transparency overlays over the candidates' answer sheet exactly for marking convenience. University faculty members selected and trained to mark the answer papers also invigilate the Entry Test which is conducted in blocks of 25 students each. The number of applicants has ranged from 2200-2700 for (initially 932 seats to) the current number of 1587 seats. Every candidate has to write his/her name on the answer sheet **and** test booklet (which contains blank sheet for rough work). A hard copy of the answer key is handed to each candidate as they leave after completion of the Test; the answer key is also available on the University's website. Additionally, a hardcopy is posted on the notice-boards placed on the fence facing the main road and all gates are locked. (See Appendices II a, b)

Issues of test validity and reliability

It is generally and universally agreed that tests (specially high-stakes) have to meet certain reliability and validity criteria for them to be valued and accepted. Test validity (content and construct) is maintained in terms of (i) test design and the main objectives stated in the prospectus, and (ii) the sample paper provided to candidates. The items in all the section match those in the pre-University Higher Secondary Certificate examination papers. The items in the English section of ET are as follows:

- Sentence completion (lexical and structural items)
- Use of homonyms /antonyms
- Error detection (use of structures)
- Identifying correct summaries of passages* (The passages are a mix of known and unfamiliar texts. The other items are similar in content to that in the Higher Secondary Exam paper)

The items for Math, Physics and Chemistry cover the entire curriculum of Higher Secondary Certificate (HSC), and the MCQs are designed to encourage Thinking Skills to a very limited extent

Test administration and reliability factors

The reliability of the Entry Test in this case can be judged three parameters. The first one relates to inter-rater reliability which is established by arranging for two raters to mark each set of 25 answer sheets belonging to a block. Each row comprising ten blocks (each block with 25 candidates) is supervised by one head invigilator who is the head of a teaching department, and each block has two invigilators. After the ET is over, the invigilators as raters are re-assigned blocks (pre-determined by the Admissions Committee), and the Head Invigilators (Heads of departments) distribute among each pair of raters an answer key, a rating sheet and a set of 25 answer

scripts. After the raters finish marking and comparing scores for accuracy, the documents are received by the Head Invigilators and duly entered in their logs before the raters are permitted to leave the Examination canopy. All this takes approximately 90 minutes. After the raters leave the canopy, the test grading sheets are re-examined to ensure that no errors are made overall. By late afternoon all the results are posted on the website for candidates to check the results personally and prepare for the interview call.

The second reliability factor is that a little more than 75 % of the total number of seats available on Open Merit (Regular) and Self- Finance scheme are filled by deserving candidates who are Karachi-based and have very high A grades (75 % and above) in the Higher Secondary Certificate Examination of the Karachi Board. The data for this study was obtained from the Admissions Committee and is considered to be factually reliable.

The third parameter related to reliability was addressed through the administration of a questionnaire survey that was conducted with three random groups of students who sat for one of the Entry Tests. The aim of the survey study was to find out (i) students' perceptions and attitude towards the Test, and (ii) the modes of preparation for it. The open-ended questionnaire was bi-lingual because many students are known to have difficulty in expressing themselves in English. This funded-study, conducted by the writer, was prompted by the end-of-year written exam and students' poor performance in English (Course HS-101) in two engineering disciplines for two consecutive years. The study did two things: (a) developed a profile of 91 students who failed the English course; and (b) reviewed the poor performance of these students in the ET and found correlation between English and Math sections of the ET and Annual Examination.

Findings of the survey

The survey indicated that:

1. There was more instrumental motivation in the students who prepared to sit for the test. This is because English is taught and studied as an academic subject at the Higher Secondary Certificate level is literature-based (60 % of the course content using prescribed textbooks on prose, poetry and one-act plays) with a 40% balance of itemised grammar. Students are required to get a minimum passing mark in the subject that is taken as a written exam carrying 200 marks.
2. The strategies used by students to pass the HSC exams are (i) rote learning of a few selected essays, answers to textual questions from past papers and locally-published students' guidebooks, (ii) practicing sentence-completion with a handful of hackneyed idiomatic expressions, homonyms and homophones, and (iii) sentence transformation. (Students often do not achieve good marks in this section of the paper).

3. Since the Entry test(ET) is held approximately 9-10 weeks after the pre-University board exam (HSC), nearly 65 % of the students stated that they had to attend special coaching classes for the ET, 14 % stated that they did their preparatory study in groups with friends / neighbours who also seek admission; 13 % stated that they studied on their own; five per cent stated that they did not prepare for the test at all as **either** they were not interested in gaining admission but were pushed by parents / siblings/ or former teachers **or** were confident of passing the test. Only a mere two per cent said they had taken private tuition. (These two percent respondents may have been the ones from more privileged background or their parents may have been highly motivated on behalf of their off-springs).
4. The questionnaires (not distributed among the whole population of Year One and year two students) showed that none of the respondents belonged to affluent backgrounds even though a very few respondents admitted that took private tuitions to prepare for the ET.

Conclusion

In conclusion, it can be said that the Entry Test designed and administered in an under-resourced public sector university in Pakistan without technological support is reliable and valid. The ET has achieved the main objectives stated for its use, and has helped to promote a better culture of learning and participation in academic pursuits. The Entry Test has also had some unplanned outcomes, such as, (a) the removal of reserved seats for female applicants has also led to a better gender equity. (In some departments such as Architecture, Textile and Bio-Medical Engineering there are sometimes more female than male students.) (b) The children of teachers and employees are of better academic calibre and create fewer problems for teachers. And finally, it may be claimed that such a test can be replicated in similar situations and an exchange of ideas may be gainful for both parties.

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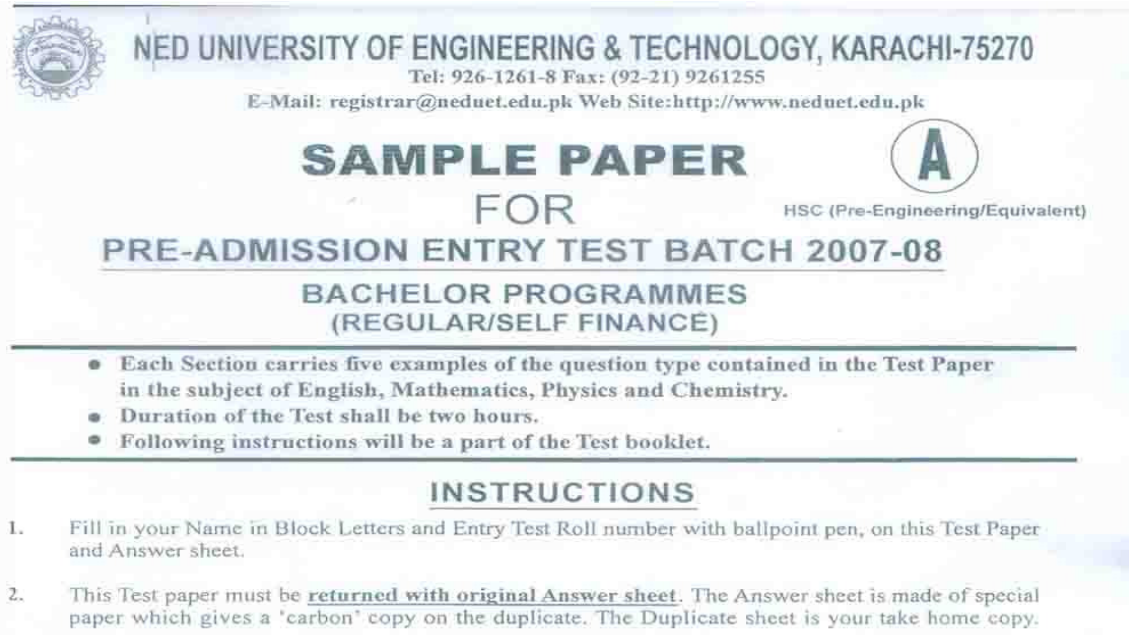
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Daily DAWN. Entry tests conducted. December 5, 2005, pp 21.
Daily DAWN. Tertiary education in India and Pakistan. October 01, 2006, pp 22

Appendix I

(a)



The image shows a sample paper header for NED University of Engineering & Technology. It includes the university's name, contact information, and the title of the paper. The paper is for HSC (Pre-Engineering/Equivalent) students. It lists the subjects covered and the duration of the test. It also includes instructions for the test.

NED UNIVERSITY OF ENGINEERING & TECHNOLOGY, KARACHI-75270
Tel: 926-1261-8 Fax: (92-21) 9261255
E-Mail: registrar@neduet.edu.pk Web Site: http://www.neduet.edu.pk

SAMPLE PAPER **A**
FOR HSC (Pre-Engineering/Equivalent)
PRE-ADMISSION ENTRY TEST BATCH 2007-08
BACHELOR PROGRAMMES
(REGULAR/SELF FINANCE)

- Each Section carries five examples of the question type contained in the Test Paper in the subject of English, Mathematics, Physics and Chemistry.
- Duration of the Test shall be two hours.
- Following instructions will be a part of the Test booklet.

INSTRUCTIONS

1. Fill in your Name in Block Letters and Entry Test Roll number with ballpoint pen, on this Test Paper and Answer sheet.
2. This Test paper must be **returned with original Answer sheet**. The Answer sheet is made of special paper which gives a 'carbon' copy on the duplicate. The Duplicate sheet is your take home copy.

Appendix-I (b)

(SAMPLE PAPER)

SECTION I ENGLISH

1. Choose the alternative closest in meaning to the underlined words in the following sentence.

He is good at making model aeroplanes.

(A) useful (B) competent (C) clever (D) skilful

2. Choose one word to fit the meaning in the following sentence.

The teacher asked him to _____ his mistake.

(A) expect (B) accept (C) aspect (D) inspect

3. Which of the underlined words (given below as options) is incorrect?

The idea for the air-supported plastic structures has come from an aeronautical engineer in 1945.

(A) for (B) has come (C) an (D) in

4. Choose the best option to complete the sentence.

_____ Bilal graduates from this University, he wants to go abroad for higher studies.

(A) By the time (B) After (C) Before (D) Until

5. Read the given paragraph and choose the best option as the summary.

For centuries Asia has suffered under the insolence of the White Man. I have myself seen this insolence in ways that made my blood boil and that, if I had been an Asian and not a European, would have roused me to fury. This long experience of European domination has naturally produced a mood of resistance, and, as always happens in such cases, there is a danger lest the fight for independence should become a desire for conquest.

- (A) The White Man's behaviour has produced a rebellious attitude among the Asians.
(B) The White Man's insolence has affected both the Europeans and the Asians.
(C) There is danger that the Asians may strike back in reaction to the White Man's domination.
(D) Asians have suffered at the hands of the Europeans.

Appendix-II (a)

Serial No.

ANSWER SHEET

Name: _____

Roll No. _____

Signature of Candidate _____

Signature of Invigilator _____

Q.No.	Section-I Chemistry	Q.No.	Section-II Computer	Q.No.	Section-III English	Q.No.	Section-IV Mathematics	Q.No.	Section V Physics
001	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	021	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	041	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	061	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	081	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
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010	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	030	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	050	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	070	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	090	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
011	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	031	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	051	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	071	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	091	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
012	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	032	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	052	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	072	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	092	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
013	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	033	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	053	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	073	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	093	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
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Appendix-II (b)

ANSWER KEY OVERLAY

Q.No.	Section I English	Q.No.	Section II Mathematics	Q.No.	Section III Physics	Q.No.	Section IV Chemistry
1	<input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	1	<input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	1	<input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	1	<input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
2	<input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D	2	<input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	2	<input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D	2	<input type="radio"/> A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D
3	<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D	3	<input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	3	<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D	3	<input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
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