SET A

UNITED INTERNATIONAL UNIVERSITY

CSE 2213 (SECTION A) – CLASS TEST 3
TIME: 15 MINUTES, FULL MARKS: 20

[redacted]
MARKS OBTAINED

Name: [redacted] ID: [redacted]

There are 10 MCQ questions, each having four options and one correct answer. You have to tick the correct answer **using ball-point pen only**. Each question carries 2 marks. **Changing an answer or ticking multiple answers in a question will result in zero (0) marks.** You are allowed to do your rough works in this question paper. No extra sheet will be provided.

1. To prove P(n) using Mathematical Induction for every integer n, what should be the basis?

   i. P(1) ii. P(0) iii. P(k), where k is an integer iv. Not possible

2. During the induction step, what do we have to prove?

   i. Induction hypothesis ii. Induction conclusion iii. Basis iv. None of them

3. You have to put 13 objects in 10 boxes. By Pigeonhole Principle, how many boxes will contain exactly two objects?

   i. Three boxes ii. One box iii. At least one box iv. Cannot be certain

4. 400 books are kept in 30 shelves. There is at least one shelf that contains -

   i. 14 books ii. 15 books iii. 16 books iv. 17 books

5. How many cards you must pick out of a standard deck of 52 cards to make sure you have at least one king?

   i. 13 ii. 14 iii. 48 iv. 49

6. You have to create a string of three uppercase English letters that starts and ends with the same letter. How many such strings can be created, when the letters can be repeated?

   i. 52 ii. 676 iii. 650 iv. 17576

7. You are going to buy an artwork from Japan, but you need to stop in Malaysia first before you head towards Japan. If there are 9 flights from Bangladesh to Malaysia, and 11 flights from Malaysia to Japan, how many ways can you go to Japan?

   i. 11 ways ii. 99 ways iii. 20 ways iv. 9 ways

8. How many licence plates can be made using two uppercase English letters followed by two positive digits?

   i. 67600 ii. 776 iii. 54756 iv. 757

9. You have to choose a three-course meal at a fine dining restaurant. If there are 6 appetizers, 10 mains and 5 desserts, how many ways can you choose a meal?

   i. 21 ii. 300 iii. 65 iv. 56

10. You have to create a string of three English letters (both uppercase and lowercase) where the letters of the same case cannot be repeated and the first letter must be uppercase. How many such strings can be created?

    i. 70304 ii. 130 iii. 127 iv. 66300

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