Booklet No:

University of Management and Technology Lahore
School of Engineering (SEN)
U-GAT Test for MS Engineering Admission

Paper Distribution

Sr. No	Sections	Number of Questions
1	Analytical	30
2	Mathematics	40
3	English	30
Total Questions		100

Remarks:

- Time allowed: 100 Minutes
- All questions are MCQs type
- No negative marking
- Overwriting is not allowed

SECTION A: Analytical

1

The result of flipping an evenly weighted or "fair" coin, a process commonly thought to be random, is, in fact, well determined by the impulse given to the coin and by the height above the floor from which the coin starts. Yet it is difficult to predict the result of a fair coin flip. Which of the following, if true, contributes most to an explanation of why the outcome of a coin flip is difficult to predict even though it is well determined?

A. An accurate prediction of the result of a coin flip requires extraordinary precise estimation of height and impulse.
B. Coin flipping has been used as a prime example of a random process for decades.
C. The result of flipping an unevenly weighted coin can be predicted with great accuracy.

If the impulses of coin flipping remain perfectly constant, the results are determined only by the height from which the coin falls.

For the next three questions:

Samples of a yellow feed grain must be tested for contamination by one or more of the toxins $R+$, $S*$, and $T-$. A sample retains the color it acquires from a test unless another test changes the color of the sample.

Test X turns a sample green if the sample contains $R+$ or $S*$, or both, and orange if it contains neither $R+$ nor $S*$.

Test Z turns a sample purple if the sample contains $T-$; if not, the sample retains the color it had prior to test Z.

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A sample that contains $R+$ and $S*$ but not $T-$ will yield which of the following sequences of colors, the first after test X is used and the second after test Z is used?

A. Green, green
B. Green, purple
C. Orange, yellow
D. Orange, orange

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A sample that remains yellow when subjected to test Z and turns green when subjected to test X could be a sample containing

A. $R+$, $S*$ and $T-$.
B. $S*$ and $T-$, but not containing $R+$.
C. $T-$, but containing neither $R+$ nor $S*$.
D. $S*$, but containing neither $R+$ nor $T-$.

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The two tests will NOT distinguish between two samples containing which of the following?

	Sample 1	Sample 2
A.	$R+$ and $T-$, but not $S*$	$S*$ and $T-$, but not $R+$
B.	$R+$, $S*$, and $T-$	$R+$ and $S*$, but not $T-$
C.	$R+$ and $S*$, but not $T-$	$S*$ and $T-$, but not $R+$
D.	$R+$, but neither $S*$ nor $T-$	Neither $R+$ nor $S*$ nor $T-$

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SECTION B: Mathematics	
31	The dimensions, in centimeters, of rectangular box R are 6 by 8 by 10. Which of the following CANNOT be the total surface area, in square centimeters, of two faces of R? A. 96 B. 120 C. 128 D. 180
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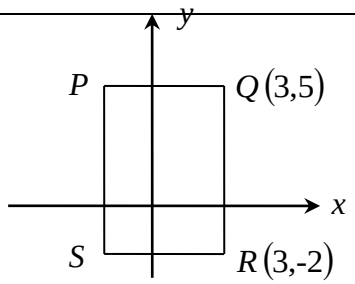
33	The positive quantities x, y and z vary over time, and $\frac{2x}{3}$ always equals $16yz$. If y is tripled and z is halved, then x is A. Decreased by 50% B. Decreased by $33\frac{1}{3}\%$. C. Unchanged D. Increased by 50%
34	In the rectangular coordinate system below, if the area of the rectangular region $PQRS$ is 35, what are the coordinates of point P?

	A. $(-2,-2)$ B. $(-4,5)$ C. $(-2,5)$ D. $(-3,5)$ 
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SECTION C: English	
	Directions: Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are four lettered words or sets of words. Choose the word or set of words for each blank that best fits the meaning of the sentence as a whole.
71	The senator's reputation, though----------by false allegations of misconduct, emerged from the ordeal (A) shaken unscathed (B) destroyed .intact (C) damaged .impaired (D) impugned .unclear
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	Directions: Each question below consists of a word printed in capital letters, followed by four lettered words or phrases. Choose the lettered word or phrase that is most nearly opposite in meaning to the word in capital letters. Since some of the questions require you to distinguish fine shades of meaning, be sure to consider all the choices before deciding which one is best.
77	AMALGAMATE: (A) study (B) circulate (C) reduce (D) separate
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