

**NATIONAL UNIVERSITY OF MODERN LANGUAGES**  
**Faculty of Engineering & Computer Science**  
**Department of Mathematics**



**Sample Paper**

**Entry Test : BS (Mathematics)**

**INSTRUCTIONS**

- The duration of the test is 60 Minutes (1 Hour).
- This test has SIX Sections “A”, “B”, “C”, “D”, “E” and “F”.
- First THREE sections “A”, “B” and “C” are compulsory for all applicants.
- Choose either Section “D” or Section “E”, or Section “F”.
- A candidate has to score minimum 50% marks in aggregate to pass the test. Furthermore, a candidate is also required to score minimum of 30% marks in each of the sections he/she has attempted.
- Fill in the appropriate circles/ovals. Multiple entries will NOT be entertained.
- After completion of the test, you have to return Question Paper & Answer Sheet both to the invigilators.
- Calculators & Mathematical tables are NOT allowed.
- Answers to all sections are to be attempted on answer sheets, which are being provided separately with the question papers. Rough work can be done on the back side of answer book, extra sheets will also be provided.
- Make sure that you do NOT write or mark anything on the question paper and/or answer sheet otherwise this will lead to cancellation of your paper.
- Keep your mobile phone turned off. Any mobile phone found Active / ON will be confiscated and candidate will be disqualified from the test.

**Section: A MATHEMATICS (Compulsory)**

This section consists of 35 questions of basic knowledge of Mathematics (Intermediate level).

**Some Sample Questions:**

**Q No:1** If  $f(x) = \frac{x}{x^2-4}$ , then f is not defined at

- (a). 4
- (b). 2
- (c). 0
- (d). -4

**Q No:2** A function is not continuous at  $x = c$ , then it is called\_\_\_\_\_

- (a). Discontinuous
- (b). Stationary
- (c). Defined
- (d). None of these

**Q No:3**  $(a + ib)(c - id) =$

- (a).  $(ac - bd) + i(ad + bc)$
- (b).  $(ac + bd) + i(ad - bc)$
- (c).  $(ac + bd) - i(ad - bc)$
- (d).  $(ac - bd) + i(ad - bc)$

**Q No:4** The range of cosec  $x$  is

- (a).  $[-1, 1]$
- (b).  $R$
- (c).  $R - \{x \mid -1 < x < 1\}$
- (d).  $[0, 1]$

**Section: B English (Compulsory)**

This section consists of 15 questions related to basic english grammar, for example synonyms, pair of words, relations among words, comprehension, prepositions, etc.

**Some Sample Questions:**

**Choose the correct word.**

**Q No:1** Jack \_\_\_\_\_ English, Spanish and a bit of French.

- (a). speak
- (b). is speaking
- (c). speaks
- (d). spoke

**Q No:2** I \_\_\_\_\_ tennis every Sunday morning.

- (a). Playing
- (b). play
- (c). am playing
- (d). am play

**Choose synonyms for the following**

**Q No:1** There was no ACCESS to the large garden of the house except a well-hidden gate.

- (a) attack
- (b) seizure
- (c) entrance
- (d) turn

**Q No:2** I hope you are not going to ABANDON your project.

- (a). modify slightly
- (b). change
- (c). give up completely
- (d). postpone

**Section: C Physics (Compulsory)**

**This section consists of 15 questions of basic knowledge of Physics (Intermediate level).**

**Q No:1.** A moving ball stops due to the action of

- (a). Nuclear force
- (b). Frictional force**
- (c). Electric force
- (d). Magnetic force

**Q No:2** Echo is the effect produced due to

- (a). Absorption of sound
- (b). Dispersion of sound
- (c). Reflection of sound
- (d). Refraction of sound

**Q No:3** The speed of sound is maximum through which of the following?

- (a). Air**
- (b). Glass
- (c). Water
- (d). wood

**Q No:4** Surface tension in a liquid is due to

- (a). Adhesive force between molecules
- (b). Cohesive force between molecules
- (c). Gravitational force between molecules
- (d). Electrical force between molecules

**Attempt Either Section “D” OR Section “E” OR Section “F”**

**Section: D Computer Sciences (10 questions)**

**Sample Questions:**

**Q No:1** The process of a computer receiving information from a server on the Internet is known as:

- (a). pulling
- (b). pushing
- (c). downloading
- (d). transferring

**Q No:2** Which of the following groups consist of only output devices?

- (a). Scanner, Printer, Monitor
- (b). Keyboard, Printer, Monitor
- (c). Mouse, Printer, Monitor
- (d). Plotter, Printer, Monitor

**Q No:3** Junk e-mail is also called?

- (a). Spam
- (b). Spoof
- (c). Sniffer
- (d). script

**Section: E Statistics (10 questions)**

**Sample Questions:**

**Q No:1** If A & B are mutually disjoint events then  $P(A \cup B) =$  \_\_\_\_\_

- (a)  $P(A) + P(B) - P(P \cap B)$
- (b)  $P(A) - P(B)$
- (c)  $P(A) + P(B)$
- (d) None

**Q No:2** Accepting a false null hypothesis is an example of what?

- (a) Significance testing
- (b) Type 1 error
- (c) Experimenter bias
- (d) Type II error

**Q No:3** Which one is not measure of dispersion.

- (a) The range
- (b) 50<sup>th</sup> percentile
- (c) Variance
- (d) Inter- Quartile range

**Section: F Chemistry (10 questions)**

**Sample Questions:**

**Q No: 1** A molecule having two atoms is called

- (a) monoatomic molecules
- (b) diatomic molecules
- (c) Polyatomic molecules
- (d) homoatomic molecule

**Q No: 2** Nickel has isotopes

- (a) 1
- (b) 3

- (c) 5
- (d) 7

**Q No: 3** A crystalline solid has \_\_\_\_\_.

- (a). long range order
- (b). short range order
- (c). disordered arrangement
- (d). none of these