

## MRNAT-SAMPLE PAPER

For all UG level programs (except B. Arch, B. Tech (Lateral)), there will be total 75 multiple choice questions (Computer Based Test - CBT) comprising of 25 questions each of Arithmetic and Logical Reasoning, General Awareness and General English in the MR-NAT. The student shall be required to solve and answer in 90 minutes. The five sample questions for each category are given below:

### Arithmetic & Logical Reasoning

- Q.1 What is the least number which when divided by 5, 6, 7 and 8 leaves a remainder 3, but when divided by 9 leaves no remainder?
- A) 1108                      B) 1683                      C) 2007                      D) 3663
- Q.2 One of the following is my secret word: AIM DUE MOD OAT TIE. With the list in front of you, if I were to tell you any one of my secret word, then you would be able to tell me the number of vowels in my secret word. Which is my secret word?
- A) MOD                      B) DUE                      C) TIE                      D) OAT
- Q.3 A school has 30% students from Maharashtra .Out of these 20% are Bombay students. Find the total percentage of Bombay?
- A) 6%                      B) 7%                      C) 15%                      D) 5%
- Q.4 In a class composed of x girls and y boys what part of the class is composed of girls?
- A)  $y/(x+y)$                       B)  $x/xy$                       C)  $x/(x+y)$                       D)  $y/xy$
- Q.5 Promoth starts from X and walks northwards. He then takes a right and after walking for sometime moves in the south east direction. A little while later he takes a left turn. In which direction is he walking?
- A) North East                      B) North West                      C) North                      D) East

### General Awareness

- Q.1 What invention caused many deaths while testing it?
- A) Dynamite                      B) Ladders                      C) Race Cars                      D) Parachute
- Q.2 When did India enter into space age by launching the satellite 'Aryabhata'?
- A) 1966                      B) 1932                      C) 1975  
D) 1990
- Q.3 Lance Armstrong, a sportsperson of international repute, belongs to which of the following countries?

A) USA

B) Ukraine

C) Spain

D) Brazil

Q.4 To which king belongs the Lion capitol at Sarnath?

A) Chandragupta

B) Ashoka

C) Kanishka

D) Harsha

Q.5 The longest day (shortest night) in the southern hemisphere is

A) 21-Jun

B) 22-Dec

C) 21-Jul

D) 22-Nov

### General English

Q.1 Choose the word which is different from the rest.

A) Wool

B) Honey

C) Silk

D) Wax

Q.2 Choose the one which can be substituted for the given word/sentence.

A drawing on transparent paper

A) Red print

B) Blue print

C) Negative

D) Transparency

Q.3 Choose the pair in which the words are differently related from the rest

A) Tree : Stem

B) Face : Eye

C) Chair : Sofa

D) Plant: Flower

Q.4 In the following question choose the word which best expresses the meaning of the given word.

CORPULENT

A) Lean

B) Gaunt

C) Emaciated

D) Obese

Q.5 The statement that the dazzling sunshine was "for once unfiltered by layers of air" means

A) that the sun was very hot

B) that there was no strong wind

C) that the air was unpolluted

D) none of above

**For all PG level programs except MBA & M.Tech**, there will be total 75 multiple choice questions (Computer Based Test - CBT) comprising of 45 questions (15 questions each of Arithmetic and Logical Reasoning, General Awareness and General English) and 30 questions of the level of qualifying examination for admission to specific program in the MR-NAT. The student shall be required to solve and answer in 90 minutes.

The five sample questions of MR-NAT for M.Sc. Biotechnology & M.A- Psychology along with five sample questions for each category i.e. Arithmetic and Logical Reasoning, General Awareness and General English are given below:

### **M.Sc.- Biotechnology**

Q.1 RNAs that catalyze biological reactions, such as self-splicing introns, are known as:

- A) enzymes                      B) spliceosomes      C) ribozymes                      D) lariats

Q.2 The regions of DNA in a eukaryotic gene that encode a polypeptide product are called:

- A) hnRNAs                      B) exons                      C) leader sequences                      D) tRNAs

Q.3 When a signal molecule arrives at a G protein-linked receptor, the G protein

- A) becomes deactivated                      B) binds to the signal molecule  
C) becomes activated                      D) binds with a Ca<sup>++</sup>

Q.4 Cell fractionation is the most appropriate procedure for preparing and studying

- A) isolated cells which are normally found tightly attached to neighbouring cells  
B) cells without a functional cytoskeleton  
C) isolated organelles  
D) the basic macromolecules

Q.5 Which of the following enzymes unwind short stretches of DNA helix immediately ahead of a replication fork?

- A) DNA polymerases                      B) Helicases  
C) Single-stranded binding proteins                      D) Topoisomerases

### **M.A- Psychology**

Q.1 Garampani sanctuary is located at

- A) Junagarh, Gujarat                      B) Diphu, Assam  
C) Kohima, Nagaland                      D) Gangtok, Sikkim

- Q.2 Frederick Sanger is a twice recipient of the Nobel Prize for
- A) Chemistry in 1958 and 1980  
 B) Physics in 1956 and 1972  
 C) Chemistry in 1954 and Peace in 1962  
 D) Physics in 1903 and Chemistry in 1911
- Q.3 Who was the first Indian Chief of army Staff of the Indian Army?
- A) Gen. K.M. Cariappa  
 B) Vice-Admiral R.D Katari  
 C) Gen. Maharaja Rajendra Singhji  
 D) None of the above
- Q.4 Which word does NOT belong with the others?
- A) tyre  
 B) steering wheel  
 C) engine  
 D) car
- Q.5 Escape velocity of a rocket fired from the earth towards the moon is a velocity to rid of
- A) Earth's gravitational pull  
 B) Moon's gravitational pull  
 C) Centripetal force due to the earth's rotation  
 D) Pressure of the atmosphere

**Arithmetic & Logical Reasoning**

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**General Awareness**

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**For B.Tech Lateral Entry program, there will be total 50 multiple choice questions in MR-NAT comprising of :**

10 questions of the level of Diploma in Electrical Engg. + Electronics Engg + Computer Engg. / IT

10 questions of the level of Diploma in Mechanical Engg. + Automobile Engg. + Civil Engg

10 questions of Arithmetic and Logical Reasoning

10 questions of General Awareness

10 questions of General English

The student shall be required to solve and answer all these 50 questions in 60 minutes.

**Some sample questions for each category are attached given below:**

- Q.1 Soil with particle size less than 75 micron meter is classified as
- A) gravel
  - B) sand
  - C) pebbles
  - D) clay/silt
- Q.2 Which of the following is one of the functions performed by a Diode?
- A) Filter
  - B) Amplifier
  - C) Rectifier
  - D) Inverter
- Q.3 How many Watts are in 100 Microwatts?
- A) 0.01 milliwatts
  - B) 0.1 milliwatts
  - C) 1.0 milliwatts
  - D) 10 nanowatts
- Q.4 The input device that is closely related to touch screen is the?
- A) Light Pen
  - B) Keyboard
  - C) Joystick
  - D) Mouse
- Q.5 Which of the following are the two main components of the CPU?
- A) control units & registers
  - B) registers & Main memory
  - C) control unit & ALU
  - D) ALU & bus
- Q.6 Which of the following welding process uses non-consumable electrodes?
- A) TIG welding
  - B) MIG welding
  - C) Manual arc welding
  - D) Submerged arc welding

- Q.7 In automobiles G.V.W. refers to  
A) Gross vehicle width  
B) Gross vehicle weight  
C) Gross vehicle wheel base  
D) Gross vehicle wheel track
- Q.8 Reena is twice as old as Sunita. Three years ago, she was three times as old as Sunita. How old is Reena now ?  
A) 6 Years  
B) 12 Years  
C) 14 Years  
D) 16 Years
- Q.9 In the question given below out of four alternatives, choose the one which can be substituted for the given word/sentence. The study of ancient societies  
A) Anthropology  
B) Archaeology  
C) History  
D) Ethnology
- Q.10 Find out which one of the given alternatives will be another member of the group or of that class Wheat, Barley, Rice  
A) Food  
B) Agriculture  
C) Farm  
D) Gram