

MEDICAL ENTRANCE TEST (MET-2021)

Admissions Test to 2-years NEET Program of

The IITian's Prashikshan Kendra

Duration : 120 minutes

Max. Marks: 200

➤ **INSTRUCTIONS :**

- Attempt all 50 questions. There are **three sections** in this question paper. Section 1 comprises of 25 Objective questions in Physics, Chemistry & Mathematics Section 2 comprises of 15 Objective questions in Biology and Section 3 comprises of 10 Objective questions based on Logical Reasoning.
- Each Objective question has four choices and only one choice is correct.
- Darken the bubble completely on the OMR bubble sheet to indicate the correct answer.
- Darkening more than one bubble is not allowed & will be treated as incorrect.
- **The marking scheme for all questions is** : Every correct answer will be given 4 marks and every incorrect answer will lead to a deduction of 1 mark. Every unattempted answer will fetch zero marks. Thus, there is negative marking for Objective questions
- Most questions in Section 1 are from your syllabi in Std. X.
- Be relaxed and in the present moment while attempting the Test.
- Do not copy or use any aids like calculators, mobile phones or any other electronic devices. Students found doing so will be disqualified.
- Do not talk or disturb other students while giving the Test. This too will lead to disqualification.
- The results of this Test will be communicated to you by telephone within 2 days. An Information Seminar is arranged alongside the MET-2021 Test which you may attend too.

Best of Luck. May God Bless You !

SECTION 1 : PHYSICS + CHEMISTRY + MATHEMATICS

- Q.1** Which of the following is a vector quantity ?
(a) Energy (b) Momentum (c) Work (d) Temperature
- Q.2** Coulombs per sec. is a unit of ____
(a) electrical charge (b) current
(c) potential difference (d) resistance
- Q.3** A body is projected vertically upward with an initial velocity μ . If the acceleration due to gravity is g , then time for which it remains in air, is ____
(a) $\frac{\mu}{g}$ (b) μg (c) $\frac{2\mu}{g^2}$ (d) $\frac{2\mu}{g}$
- Q.4** For two mirrors kept perpendicular to each other, the images formed will be ____
(a) 2 (b) 3 (c) 4 (d) 1
- Q.5** A man weighs 600 N on earth. What would be his approximate mass on moon ?
(‘g’ on moon = $\frac{1}{6}$ th of ‘g’ earth)
(a) 100 kg (b) 300 kg (c) 600 kg (d) 60 kg
- Q.6** Which of the following elements is most metallic?
(a) Phosphorus (b) Nitrogen (c) Arsenic (d) Bismuth
- Q.7** Percentage of carbon is highest in
(a) CH₄ (b) C₃H₄ (c) C₆H₆ (d) C₃H₈

SPACE FOR ROUGH WORK

- Q.8** Which of the following electronic configuration is wrong?
- (a) $Be(3) = 2,1$ (b) $O(8) = 2,6$
(c) $S(16) = 2,6,8$ (d) $P(15) = 2,8,5$
- Q.9** ${}_{17}Cl^{35}$ and ${}_{17}Cl^{37}$ are examples of
- (a) isobars (b) isotopes (c) isotones (d) none
- Q.10** An atom has a net charge of -1. It has 18 electrons and 20 neutrons. Its mass number is
- (a) 37 (b) 35 (c) 38 (d) 20
- Q.11** An atom with atomic number 82 and mass number 208 contains
- (a) 82 protons and 82 electrons
(b) 82 protons and 126 neutrons
(c) 82 protons, 82 electrons and 126 neutrons
(d) 82 neutrons, 126 protons and 126 electrons
- Q.12** The total number of electrons that take part in forming bonds in N_2 molecule is
- (a) 2 (b) 6 (c) 4 (d) 8
- Q.13** Calculate the number of atoms present in 6.4 g of sulphur.
- (a) 2.4×10^{23} atoms (b) 2.4×10^{-23} atoms
(c) 1.2×10^{23} atoms (d) 1.2×10^{-23} atoms
- Q.14** Calculate the number of atoms present in 71 g of Cl_2 .
- (a) 1.205×10^{-24} (b) 1.205×10^{23} (c) 1.205×10^{24} (d) 1.205×10^{-23}

SPACE FOR ROUGH WORK

Q.15 The substance which gets oxidised is the

- (a) oxidising agent (b) reducing agent
(c) Redox agent (d) None

Q.16 $m : 32 :: 4 : 16$ value of m is

- (a) 16 (b) 8 (c) 4 (d) 2

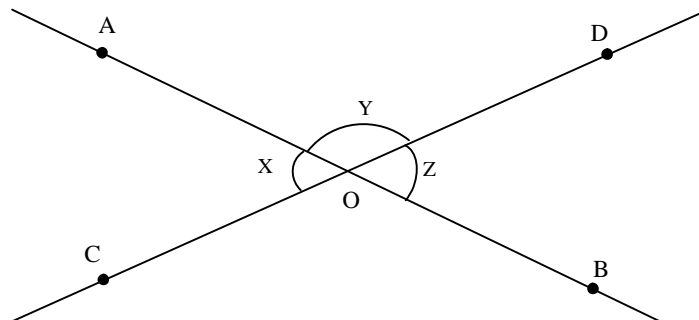
Q.17 The solution of $3^{3x-5} = \frac{1}{9^x}$ is _____

- (a) $\frac{5}{2}$ (b) 5 (c) 1 (d) $\frac{7}{3}$

Q.18 If $(3x - 4)(5x + 7) = 15x^2 - ax - 28$, then $a =$ _____

- (a) 1 (b) -1 (c) -2 (d) none of these

Q.19 Two lines AB and CD intersect at O, forming the angles as shown below:



If $x : y = 3 : 7$, what is the value of z ?

- (a) 54° (b) 42° (c) 20° (d) 52°

SPACE FOR ROUGH WORK

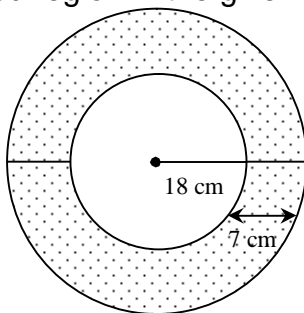
Q.20 $\triangle ABC$ is right angled at A. $AB = 60$, $AC = 80$, $BC = 100$. D is a point between B and C such that triangles ADB and ADC have equal perimeters. Determine the lengths of BD and DC.

- (a) (40, 60) (b) (60, 40) (c) (30, 60) (d) (40, 30)

Q.21 A metal sheet 27 cm long, 8 cm broad and 1 cm thick is melted into a cube. The difference between the surface area of two solids will be

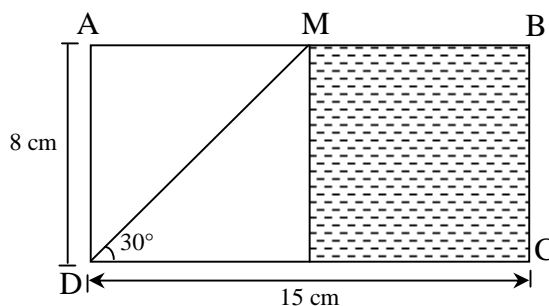
- (a) 284 cm^2 (b) 296 cm^2 (c) 286 cm^2 (d) 300 cm^2

Q.22 The area of the shaded region in the given figure is



- (a) 996 cm^2 (b) 946 cm^2 (c) 935.7 cm^2 (d) none of these

Q.23 In the figure ABCD is a rectangle. The area of the shaded region is



- (a) 16.2 cm^2 (b) 13.8 cm^2 (c) 64.8 cm^2 (d) 11.2 cm^2

SPACE FOR ROUGH WORK

Q.24 A chord of length 10cm is at a distance of 12cm from the centre of a circle. What is the radius of the circle?

- (a) 12 cm (b) 13 cm (c) 20 cm (d) 11 cm

Q.25 If $x = \frac{1}{2}$, then the value of $x + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{x}}}}$ is equal to

- (a) $\frac{5}{4}$ (b) $\frac{4}{5}$ (c) $\frac{3}{4}$ (d) none of these

SECTION -2 : BIOLOGY

Q.26 Which among the following are insectivorous plants?

- (a) Drosophila (b) Drosera
(c) water hyacinth (d) all of these

Q.27 The following organism is a link between plants and animals

- (a) Fungus (b) Paramecium (c) Euglena (d) cyanobacteria

Q.28 In animals carbohydrates are stored in – form.

- (a) Glucose (b) Starch (c) Sucrose (d) Glycogen

Q.29 Ball and socket type of joint is present between

- (a) Hip bone & thigh bone (b) shoulder & upper arm bone
(c) elbow bones (d) a and b

Q.30 Which among the following is vestigial i.e. not useful in human body?

- (a) Deodenum (b) appendix (c) big tow (d) hair on skin

SPACE FOR ROUGH WORK

- Q.31** In classification viruses are included in
(a) plants (b) animals (c) bacteria (d) none of these
- Q.32** Which among the following is not a fruit?
(a) Tomato (b) Potato (c) Lemon (d) Brinjal
- Q.33** The tallest tree in the world is
(a) Giant Nepenthus (b) Giant sequoia
(c) Pinus (d) Christmas tree
- Q.34** Chromosomes are made up of
(a) DNA & RNA (b) DNA & proteins
(c) DNA & carbohydrates (d) DNA & lipids
- Q.35** The special structures meant for transpiration & gaseous exchange in plants are
(a) stomata (b) hydathodes (c) cuticle (d) stipules
- Q.36** The semiautonomous organelles in the cell are
(a) Golgi bodies (b) Chloroplasts & mitochondria
(c) Endoplasmic reticulum (d) all of these
- Q.37** Which disease is caused by virus?
(a) Cholera (b) Leprosy (c) AIDS (d) all of these
- Q.38** When energy is required by cell following conversion occurs
(a) Lactose to glucose (b) ADP to ATP
(c) ATP to ADP (d) Fat to glycerol

SPACE FOR ROUGH WORK

Q.39 Which is the largest gland of the body?

- (a) Pancreas (b) Intestine (c) Liver (d) Thymus

Q.40 Brain is protected by a bony box called

- (a) Cranium (b) Skull (c) Girdle (d) Encephalon

SECTION 3 : LOGICAL REASONING

Q.41 and 42 :

Direction – A rhythmic arrangement of letters is given. The missing letters appear in the same order in one of the alternative answer. Choose the correct alternative.

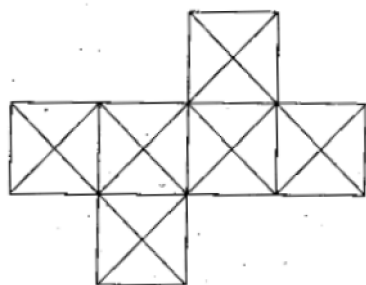
Q.41 ab – bc – c – ba – c

- (a) baac (b) aabb (c) caab (d) aaab

Q.42 abb – baa – bb – b – ab

- (a) bbaba (b) abaaa (c) abbba (d) ababa

Q.43 Find the number of squares from the adjacent figure.



- (a) 6 (b) 11 (c) 13 (d) 10

SPACE FOR ROUGH WORK

Q.44 If in a Mathematical code language

$$\Delta + \nabla = 9, \triangleleft + \triangleright = 13,$$

$\triangleright + \Delta = 11$ and $\nabla + \square = 12$, then find the value of \square from the following alternatives.

(a) 5

(b) 7

(c) 6

(d) 8

Q.45 and 46 :

Direction – Ten years ago the ratio of ages of Sunil and Anil was 1 : 7. Ten years hence the ratio of their ages will be 1 : 2. Then

Q.45 Find Sunil's present age :

(1) 14 years

(2) 40 years

(3) 70 years

(4) 28 years

Q.46 What was Anil's age ten years ago ?

(1) 4 years

(2) 28 years

(3) 24 years

(4) 32 years

Q.47 and 48 : Direction – In a queue, Amruta is at the 11th place from front. Suneeta is at 26th place from behind. Sapna is at the central place between Amruta and Suneeta. If there are 60 persons in the queue, then :

Q.47 At which place, Sapna is standing from the front ?

(1) 12

(2) 24

(3) 23

(4) 26

Q.48 At which place Sapna is standing from behind ?

(1) 37

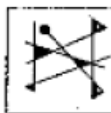
(2) 38

(3) 23

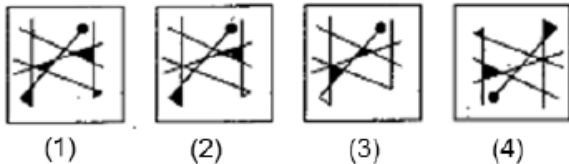
(4) 39

SPACE FOR ROUGH WORK

Q.49 Choose the correct mirror image from the alternatives given for the question figure.
Question Figure :



Answer Figures :



Q.50. In a mathematical code language
 $8 + 6 = 42$, $7 + 5 = 30$, $9 + 3 = 24$
then, $6 + 4 = ?$

(1) 27

(2) 20

(3) 22

(4) 24



SPACE FOR ROUGH WORK