

## MEDICAL ENTRANCE -SAMPLE TEST PAPER

**Duration :** 120 minutes

**Max. Marks:** 200

### ➤ INSTRUCTIONS :

- Attempt all 50 questions. There are **three sections** in this question paper. Section 1 comprises of 10 Objective questions in Physics & Chemistry, Section 2 comprises of 20 Objective questions in Biology and Section 3 comprises of 20 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-2018 Test which you may attend too.

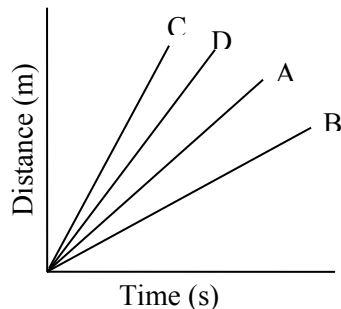
*Best of Luck. May God Bless You !*

### SECTION 1 : PHYSICS + CHEMISTRY

- Q.1** A body under uniformly accelerated motion, covers 20 cm and 60 cm in first two consecutive seconds of time from the beginning. The body starts with an initial velocity \_\_\_\_\_

- (a) zero                      (b) 5 m/s                      (c) 10 m/s                      (d) 15 m/s

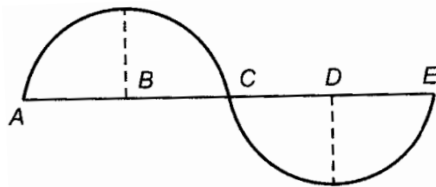
**Q.2** Four cars, A, B, C and D are moving on leveled straight road. Their distance, time graphs are shown in the given figure. Which of the following is the correct statement regarding the motion of these cars ?



- (a) Car A is faster than car D                      (b) Car B is the slowest  
(c) Car D is faster than the car C                      (d) Car C is the slowest
- Q.3** You lift a heavy book from the floor of the room and keep it in the book-shelf having a height 2 m. In this process, you take 5 s. The work done by you will depend upon \_\_\_\_
- (a) mass of the book and time taken  
(b) weight of the book and height of the book shelf  
(c) height of the book-shelf and time taken  
(d) mass of the book, height of the book-shelf and time taken
- Q.4** An ice cube is floating in glass of water. What happens to the water level when the ice melts completely ?
- (a) Rises                      (b) Falls  
(c) Remains same                      (d) First rises and then falls
- Q.5** In the sound wave produced by a vibrating tuning fork shown in the diagram, half the wavelength is represented by \_\_\_\_

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**SPACE FOR ROUGH WORK**



- (a) A B                      (b) B D                      (c) D E                      (d) A E

**Q.6** If 10 gm of ice at  $0^{\circ}\text{C}$  is mixed with 10 gm of water at  $10^{\circ}\text{C}$ , then the final temperature  $t$  is given by \_\_\_\_\_

- (a)  $10 \times 80 + 10(t - 0) = 10(10 - t)$                       (b)  $10 \times 10 = 10(10 - t) + 10(t - 0)$   
 (c)  $t = 5^{\circ}\text{C}$                       (d)  $t = 0^{\circ}\text{C}$

**Q.7** At what temperature will the Celsius and Fahrenheit scales indicate the same reading?

- (a)  $40^{\circ}\text{C}$                       (b)  $-40^{\circ}\text{C}$                       (c)  $100^{\circ}\text{C}$                       (d)  $0^{\circ}\text{C}$

**Q.8** Where should an object be placed in front of a convex lens to get a real image of the size of the object?

- (a) At the principal focus of the lens  
 (b) At twice the focal length  
 (c) At infinity  
 (d) Between the optical centre of the lens and its principal focus

**Q.9** The surface of water in a lake is just going to freeze. What is the temperature of water at bottom ?

- (a) less than  $4^{\circ}\text{C}$                       (b)  $0^{\circ}\text{C}$                       (c) more than  $4^{\circ}\text{C}$                       (d)  $4^{\circ}\text{C}$

**Q.10** Which of the following is correct when a person walks on a rough surface?

- (a) The frictional force exerted by the surface keeps him moving.  
 (b) The force which the man exerts on the floor keeps him moving  
 (c) The reaction of the force which the man exerts on floor keeps him moving  
 (d) None of the above.

## SECTION 2 : BIOLOGY

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**SPACE FOR ROUGH WORK**

- Q.11** The baby will be a boy when he inherits
- (a) X chromosome from father and mother both.
  - (b) Y chromosome from father and X chromosome from mother
  - (c) Y chromosome from mother and X chromosome from father
  - (d) Y chromosome from mother and father both
- Q.12** Wings of insects and wings of birds are:
- (a) Vestigial organs
  - (b) Homologous organs
  - (c) Analogous organs
  - (d) connecting links
- Q.13** Which among the following are agents of cross-pollination?
- (a) Wind
  - (b) Water
  - (c) Insects
  - (d) all of these
- Q.14** Which among the following cross will show genotypic ratio 1 : 2 : 1.
- (a)  $TT \times Tt$
  - (b)  $TT \times tt$
  - (c)  $Tt \times tt$
  - (d)  $Tt \times Tt$
- Q.15** In humans spermatogenesis occurs at temperature
- (a) same at body temperature
  - (b) higher as compared to body temperature
  - (c) lower as compared to body temperature
  - (d) which is variable according to season
- Q.16** Which among the following is found in hydra producing exactly identical organism?
- (a) Budding
  - (b) Fragmentation
  - (c) Spore formation
  - (d) gamete formation
- Q.17** Light energy is converted to chemical energy in:
- (a) Respiration
  - (b) Photosynthesis
  - (c) Digestion
  - (d) All of these
- Q.18** Sphygmomanometer is used to measure
- (a) Blood circulation
  - (b) Blood pressure
  - (c) Rate of photosynthesis
  - (d) Plant movements
- Q.19** The primary urine i.e. initial filtrate produced by kidneys of man in a day is:

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**SPACE FOR ROUGH WORK**

- (a) 180-190 litres  
(b) 1.8 – 1.9 litres  
(c) 5 litres  
(d) 18 litres

**Q.20** Involuntary activities of body like blood flow, breathing, blood pressure are controlled by:

- (a) cerebrum  
(b) cerebellum  
(c) pituitary gland  
(d) Medulla Oblongata

**Q.21** Which cell organelle is involved in protein synthesis ?

- (a) Golgi complex  
(b) Mitochondrion  
(c) Ribosome  
(d) all of these

**Q.22** When raisins are kept in water they swell. This phenomenon is referred as:

- (a) Mitosis  
(b) Endosmosis  
(c) Exosmosis  
(d) Cyclosis

**Q.23** Which muscles act involuntarily?

- (i) Striated muscles  
(ii) Smooth muscles  
(iii) Cardiac muscles  
(iv) Skeletal muscles

- (a) (i) & (ii)  
(b) (ii) & (iii)  
(c) (i) & (iii)  
(d) (iii) & (iv)

**Q.24** Pteridophytes do not have :

- (a) roots  
(b) stems  
(c) flowers  
(d) leaves

**Q.25** Amphibians do not have the following :

- (a) Three chambered heart  
(b) lungs  
(c) scales  
(d) mucus glands

**Q.26** Which one is true fish ?

- (a) Jelly fish  
(b) Starfish  
(c) Silverfish  
(d) Dogfish

**Q.27** Which plants are called “amphibians” ?

- (a) Algae  
(b) Moss

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**SPACE FOR ROUGH WORK**

(c) Ferns (d) Lotus

- Q.28** Which of the following is not a green house gas ?  
(a) Methane (b) Carbon dioxide  
(c) Ammonia (d) Carbon monoxide
- Q.29** Soil erosion is prevented by :  
(a) Deforestation (b) Wind  
(c) Planting trees (d) all of these
- Q.30** Which cell organelle is power house of cell ?  
(a) Mitochondrion (b) Ribosome  
(c) Chloroplast (d) Lysosome

### **SECTION 3 : LOGIC**

- Q.31** I bought a number of books one day, four times of them on the next day, and eight the third day. In all I bought 38 books. How many books did I buy the second day?  
(a) 6 (b) 8 (c) 16 (d) 24
- Q.32** If the fifth of the month falls two days after Monday, what day of week will be the 19<sup>th</sup> of the month?  
(a) Tuesday (b) Monday (c) Thursday (d) Wednesday
- Q.33** X and Y are children of A. A is the father of X but Y is not the son of A. What is Y to A?  
(a) sister (b) brother (c) daughter (d) son
- Q.34** Ram and Shyam are both photographer and artist. Mohan and Shyam are both photographer and dancer, Ram and Vijay are both musician and artist. Vijay and Mohan are both dancer and musician. Name the person who is photographer, artist and musician.  
(a) Ram (b) Shyam (c) Mohan (d) Vijay
- Q.35** Five books are lying in a pile. E is lying on A and C is lying under B. A is lying above B and D is lying under C. Which book is lying at the bottom?

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**SPACE FOR ROUGH WORK**

- (a) A                      (b) B                      (c) C                      (d) D

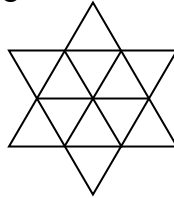
**Q.36** Smallest five digit number that can be formed by the digits 8, 2, 0, 5, 3 is \_\_\_\_

- (a) 85,320                      (b) 02,358                      (c) 20,358                      (d) 32,085

**Q.37** I was born on August 11. Arvind is younger to me by eleven days. This year Independence Day falls on Monday. On which day will Arvind's birthday fall?

- (a) Sunday                      (b) Monday                      (c) Tuesday                      (d) Wednesday

**Q.38** Number of triangles in the below figure is –



- (a) 18                      (b) 20                      (c) 22                      (d) 24

**Q.39** The Govt. of India demonetised Rs.500 and Rs.1000 notes from Nov-8, 2016 midnight. It is known that currently there are Rs. 14 Lakh Crores worth of 500 & 1000 notes in circulation in India including fake 500 and 1000 notes. Now, let us assume that those 500 and 1000 notes which are fake or are black will never be deposited in the banks and post offices of India by Dec-30, 2016 as Govt will arrest such people depositing them. From Intelligence sources, the Govt of India knows that for every Rs.100 of white currency in circulation, there is Rs.25 of black currency in circulation. If by Dec-30, 2016, the total money in 500 and 1000 notes deposited in all the banks and post offices of India is Rs.10 Lakh Crores, estimate the amount of fake currency in circulation today assuming all notes deposited are white currency.

- (a) Rs. 2 Lakh crores                      (b) Rs. 1.5 Lakh crores  
(c) Rs. 3 Lakh crores                      (d) Rs. 2.5 Lakh crores

**Q.40** A mobile number has 10 digits. How many mobile numbers exist starting with the numbers 98765\*\*\*\*\* ?

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**SPACE FOR ROUGH WORK**

- (a) 100000                      (b) 1000                      (c) 10000                      (d) 100

**Q.41** Which of the fractions below is the largest?

- (a)  $\frac{5}{8}$                       (b)  $\frac{3}{4}$                       (c)  $\frac{7}{20}$                       (d)  $\frac{6}{48}$

**Q.42** Bedi is half as old as Amar. Mohan is twice as old as Amar. How many times is Mohan as old as Bedi?

- (a) 4                      (b) 1                      (c)  $2\frac{1}{2}$                       (d) 3

**Q.43** A student divided a number by 2 when he was required to multiply it by 2. The answer he got was 2. The correct answer would have been

- (a) 8                      (b) 2                      (c) 4                      (d) 6

**Q.44** My mother is twice as old as my brother. I am five years younger than my brother but three years older than my sister. If my sister is twelve years of age, how old is my mother?

- (a) 24                      (b) 30                      (c) 40                      (d) 50

**Q.45** Replace the letter  $x$  in the number  $8x516$  by the smallest digit so that the number becomes divisible by 6

- (a) 4                      (b) 2                      (c) 7                      (d) 1

**Q.46** In prime factorization of 2000 how many 5's are there –

- (a) 4                      (b) 3                      (c) 7                      (d) 2

**Q.47** Rita's grades in four tests are 82, 80, 76 and 70. What grade must she get on the fifth test to raise her average to 80?

- (a) 86                      (b) 88                      (c) 92                      (d) 96

**Q.48** A cube of each side 4 cm is painted blue on all sides. It is then cut into small cubes of

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**SPACE FOR ROUGH WORK**



each side 1 cm. How many cubes will have only one face painted?

- (a) 18                      (b) 8                      (c) 16                      (d) 24

**Q.49** The sum of two consecutive numbers is 55. What is the larger number?

- (a) 25                      (b) 26                      (c) 27                      (d) 28

**Q.50** A cubical dice is rolled in a board game of snakes and ladders. What is the chance that the number 6 shall appear on the dice ?

- (a)  $1/2$                       (b)  $1/3$                       (c)  $1/4$                       (d)  $1/6$



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**SPACE FOR ROUGH WORK**