

Standard.: 10th

RAAISE

(Rathi's Aspire Academy Intelligence Scholarship Exam)

Marks : 60
Time : 1 Hr.

Sample Paper

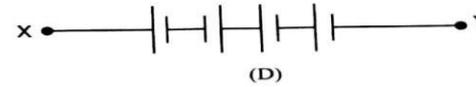
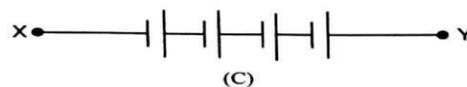
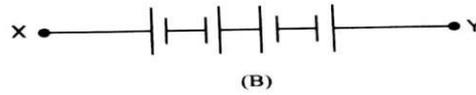
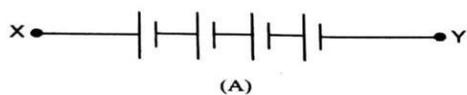
❖ **INSTRUCTIONS:**

- Attempt all questions. There is no negative marking.
- There are Five sections: Physics, Chemistry, Biology, Maths and Mental Ability
- Be relaxed and in the present moment while attempting the Test.
- Do not copy or disturb other students while giving the Test. This will lead to disqualification.
- Returned this question paper after your exam.

Best of Luck !!

Section A - Physics

- Q.1 If the amount of electric charge passing through a conductor in 10 minutes is 300 C, the current flowing is :
a) 30 A b) 0.3 A c) 0.5 A d) 5 A
- Q.2 The substance having infinitely high electrical resistance is called :
a) conductor b) resistor c) superconductor d) insulator
- Q.3 How much energy does a 100 W electric bulb transfer in 1 minute ?
a) 100 J b) 600 J c) 3600 J d) 6000 J
- Q.4 The north pole of earth's magnet is in the :
a) geographical south b) geographical east c) geographical west d) geographical north
- Q.5 Circuit Breaker Device which can be used in place of fuse in domestic electric wiring is called :
a) CBD b) DCB c) MCD d) MCB
- Q.6 The angle between an incident ray and the plane mirror is 30° . The total angle between the incident ray and reflected ray will be :
a) 30° b) 60° c) 90° d) 120°
- Q.7 A ray of light strikes a plane mirror PQ at an angle of incidence of 30° , is reflected from the plane mirror and then strikes a second plane mirror QR placed at right angles to the first mirror. The angle of reflection at the second mirror is :
a) 30° b) 45° c) 60° d) 90°
- Q.8 If a magnification of, -1 (minus 1) is obtained by using a converging lens, then the object has to be placed :
a) within f b) at $2f$ c) beyond $2f$ d) at infinity
- Q.9 Due to atmospheric refraction of sunlight, the time from sunrise to sunset is lengthened by about :
a) 6 minutes b) 2 minutes c) 4 minutes d) 5 minutes
- Q.10 Four identical cells of emf 1.5 V each were connected in four different ways as shown below :
The potential difference between the points X and Y would be equal to 6.0 V in case/cases :



- a) A and B b) A and C c) A and D d) A only

Section B - Chemistry

- Q.11 The number of molecules in 16.0g of oxygen is:
 a) 6.02×10^{23} b) 6.02×10^{23} c) 3.01×10^{-23} d) 3.01×10^{23}
- Q.12 4g of iodine and 14.2g of chlorine are made to react completely to yield a mixture of ICl and ICl_3 . Calculate the ratio of moles of ICl and ICl_3
 a) 1 : 1 b) 2 : 1 c) 3 : 1 d) 1 : 2
- Q.13 The chemical symbol P stands for:
 a) phosphorus b) Potassium c) Polonium d) Promethium
- Q.14 When an atom loses electrons, it is called a (an) _____ and has a _____ charge.
 a) Anion, positive b) Cation, positive c) Anion, negative d) Cation, negative
- Q.15 At higher altitudes :
 a) Boiling point of a liquid decreases b) Boiling point of a liquid increases
 c) No change in boiling point d) Melting point of solid increases
- Q.16 The liquid which has the highest rate of evaporation is:
 a) Petrol b) Nail-polish remover c) Water d) Alcohol
- Q.17 Non- reacting gases have a tendency to mix with each other. This phenomenon is known as:
 a) Chemical reaction b) Diffusion c) Effusion d) Explosion
- Q.18 Which of the following is a compound?
 a) Stainless steel b) Bronze c) Graphite d) Hydrogen sulphide
- Q.19 Two substances A and B when brought together form a substance C with the evolution of heat. The properties of C are entirely different from those of A and B. the substance C is:
 a) A compound b) An element c) A mixture d) None of the above
- Q.20 The nucleus of an atom contains:
 a) Protons b) Electrons c) Protons and neutrons d) Neutrons

Section C - Biology

- Q.21 A Gland not associated with the alimentary canal is
 a) liver b) salivary glands c) pancreas d) adrenal
- Q.22 In one of the following organisms, the gaseous exchange during respiration does not take place through cell membrane skin. This organism is :
 a) Electric eel b) Leech c) Earthworm d) Amoeba
- Q.23 The olfactory receptors in humans are located in :
 a) tongue b) ears c) nose d) eyes

- Q.24 If a patient is put on dialysis, he is most likely suffering from a severe ailment of the :
a) circulatorysystem b) respiratorysystem c) excretorysystem d) digestive system
- Q.25 The number of pairs of nerves which arise from the spinal cord is:
a) 21 b) 31 c) 41 d) 51
- Q.26 The part of a seed which grows and develops into root on germination is :
a) cotyledon b) plumule c) follicle d) radicle
- Q.27 The photosynthesis in a plant is not taking place during the day time if the plant isreleasing:
a) water vapour b) oxygen c) carbon dioxide d) all the above
- Q.28 A multicellular organism which reproduces by budding is :
a) Amoeba b) Yeast c) Leishmania d) Hydra
- Q.29 A zygote which has inherited an X chromosome from the father will develop into :
a) baby boy b) baby girl c) adult d) either boy or girl
- Q.30 One of the following does not have a nucleus. This one is :
a) red blood cell b) white blood cell c) guard cell d) epidermal cell

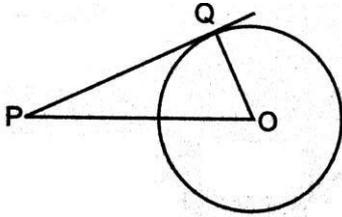
Section D - Maths

- Q.31 The cube root of 0.000512 is
a) 0.6 b) 0.008 c) 0.0006 d) 0.08
- Q.32 If α, β are the roots of the quadratic equation $3x^2 - 6x = 0$, then the equation whoseroots are $\alpha + 1$ and $\beta + 1$ is
a) $x^2 - 4x + 3 = 0$ b) $x^2 + 4x + 3 = 0$ c) $x^2 - 4x - 3 = 0$ d) $x^2 + 4x - 3 = 0$
- Q.33 $4^{x+3} = 112 + 8 \times 4^x$, then the value of x is
a) $\frac{1}{3}$ b) -2 c) 2 d) $\frac{1}{2}$
- Q.34 From a point P which is at a distance of 13 cm from the centre O of a circle of radius 5 cm, the pair of tangents PQ and PR to the circle are drawn. Then the area of the quadrilateral PQOR is
a) 60 cm^2 b) 65 cm^2 c) 30 cm^2 d) 32.5 cm^2
- Q.35 The sum of the first 49 terms of an A.P. is 588. Then the 25th term of this A.P. is
a) 14 b) 12 c) 15 d) 10
- Q.36 Out of the first forty positive natural numbers (consecutive) two numbers are chosen atrandom. The probability that their product is odd is
a) $\frac{1}{2}$ b) $\frac{21}{79}$ c) $\frac{19}{78}$ d) $\frac{17}{98}$
- Q.37 The diameter of a semicircle is 14cm., then its perimeter is
a) 22 cm b) 24 cm c) 32 cm d) 36 cm
- Q.38 The radius of a cylinder is twice that of the cone and they have equal heights. The ratio of the volume of cylinder to volume of cone is
a) 4 : 3 b) 12 : 1 c) 1 : 12 d) 3 : 4

Q.39 $(\sqrt{3} - \sqrt{2})(\sqrt{3} + \sqrt{2})$ is
a) A rational number b) A whole number c) An integer d) All of these

Q.40 Which of the following cannot be determined graphically?
a) Mean b) Median c) Mode d) None of these

Q.41 PQ is tangent to circle with centre O. The radius of circle if PO = 5 cm and PQ = 4 cm, is :



a) 5 cm b) 3 cm c) 7 cm d) 3.5 cm

Q.42 It is proposed to build a single circular park equal in area to the sum of areas of two circular parks of diameters 16 m and 12 m in a locality. The radius of the new park would be
a) 10m b) 15m c) 20 m d) 24m

Q.43 If the perimeter of a circle is equal to that of a square, then the ratio of their areas is
a) 22:7 b) 14:11 c) 7:22 d) 11:14

Q.44 A letter is chosen at random from the letters of the word ASSASSINATION. Find the probability that the letter chosen is a vowel
a) $\frac{6}{13}$ b) $\frac{7}{13}$ c) 1 d) 0

Q.45 Two vertices of a Triangle ΔABC are given by A (6, 4) and B(-2, 2) and its centroid is G(3, 4). Find the coordinates of the third vertex C of the ΔABC .
a) (2, 3) b) (4,6) c) (4,3) d) (5,6)

Section E - MAT

Q.46 The ratio of the ages of Minu and Meera is 4:2. If the sum of their ages is 6 years, find the ratio of their ages after 8 years.
a) 8:6 b) 6:5 c) 6:4 d) 7:5

Q.47 Complete the series 2, 5, 9, 19, 37.....
a) 76 b) 74 c) 75 d) None of these

Q.48 If F = 6, CAT = 24, then WORD =?
a) 59 b) 60 c) 61 d) 62

Q.49 $\frac{1120}{\sqrt{?}} = 80$ a) 3.74 b) 149.67 c) 196 d) 225

Q.50 If 15 men can reap the crops of a field in 28 days, in how many days will 5 men reap it?
a) 50 days b) 60 days c) 84 days d) 9.333 days

How many times the hands of a clock coincide in a day?
Q.51 a) 24 b) 22 c) 23 d) 21

Q.52 In certain code 'TIGER' is written as 'QDFHS'. How is 'FISH' written in that code?
a) GERH b) GRHE c) GREH d) GHRE

- Q.53 A shopkeeper sold an article for Rs. 2500. If the cost price of the article is 2000, find the profit percent.
a) 23% b) 25% c) 27% d) 29%
- Q.54 Find the odd man out.
a) Patna b) Mumbai c) Madhya Pradesh d) Bengaluru
- Q.55 Pointing to a girl in the photograph, Ajay said, "Her mother's brother is the only son of my mother's father." How is the girl's mother related to Ajay?
a) Mother b) Sister c) Aunt d) Grandmother
- Q.56 Find the Missing element in the series: 1, 2, 2, 4, 8, 32, ?
a) 84 b) 64 c) 128 d) 256
- Q.57 If January 1, 1996, was Monday, what day of the week was January 1, 1997?
a) Thursday b) Wednesday c) Friday d) Sunday
- Q.58 If 30% of a certain number is 12.6, what is the number?
a) 24 b) 42 c) 23 d) 32
- Q.59 In a group of cows and hens, the number of legs are 14 more than twice the number of heads. The number of cows is
a) 5 b) 7 c) 10 d) 12
- Q.60 The base of a right-angled triangle is 16 and hypotenuse is 20. What is its area?
a) 52 meters b) 58 meters c) 68 meters d) 60 meters