

Booklet Sl. No.

05142

रोल नं०
Roll No.

R J 7 1 1 4 2

SSTSE/14

राज्य विज्ञान प्रतिभा खोज परीक्षा, 2014

State Science Talent Search Examination, 2014

समय : 2 घण्टे
Time : 2 hours

पूर्णांक : 150
Max. Marks. 150

परीक्षार्थियों के लिए निर्देश

Instructions to Candidates

प्रश्नों के उत्तर देने के पहले निम्नलिखित निर्देशों को ध्यान से पढ़िए ।

Read the following instructions carefully before you answer the questions.

1. परीक्षा के प्रश्नों के उत्तर एक अलग उत्तर-पत्रक पर देने हैं जिसे समयावधि समाप्त होने पर ले लिया जायेगा ।
 2. अपना रोल नम्बर, जैसा कि आपके प्रवेश-पत्र में दिया गया है, स्पष्ट लिखिए (एक चौखटे में केवल एक अंक) । यह ध्यान रखें कि कोई चौखटा रिक्त न रह जाये । रोल नम्बर में आने वाले शून्य के अंक भी इस पुस्तिका तथा उत्तर-पत्रक पर सही चौखटे में स्थानान्तरित किये जायें ।
 3. यह परीक्षा छः खण्डों में होगी, जिसके प्रत्येक खण्ड में 25 प्रश्न होंगे अर्थात् कुल मिलाकर 150 प्रश्न हल करने होंगे । प्रत्येक प्रश्न एक अंक का है ।
 4. चूँकि सभी प्रश्न अनिवार्य हैं, इसलिए उत्तर देने के पहले पूरे प्रश्न-पत्र को पढ़ने की कोशिश न कीजिए ।
1. Answers are to be marked on the separate Answer Sheet which will be collected after the time is over.
 2. Write your Roll No. very clearly (only one digit in one block) as given on your Admission Card. See that no block is left unfilled and even zeros appearing in the Roll No., if any, are correctly transferred to the appropriate blocks on the booklet and on the Answer Sheet.
 3. This test is in SIX parts. Each part consists of 25 questions. In all, 150 questions are to be attempted. Each question carries **one** mark.
 4. Since all the questions are compulsory, do not try to read through the whole question paper before beginning to answer it.

उदाहरण :

R J 0 1 1 8 2

आगे भी सभी कार्यों के लिए आपका रोल नम्बर वही रहेगा जो कि आपके प्रवेश-पत्र पर दिया गया है ।

Example :

R J 0 1 1 8 2

For all subsequent purposes, your Roll No. shall remain the same as given on the Admission Card.

[P.T.O.]

5. पहले प्रश्न से आरम्भ कीजिए और सिलसिलेवार एक के बाद दूसरे प्रश्न का उत्तर देने की कोशिश तब तक करते जाइए जब तक आप प्रश्नों को समाप्त न कर लें ।
6. यदि आप किसी प्रश्न का उत्तर नहीं जानते हैं, तो उस पर बहुत अधिक समय न लगाइए और अगले प्रश्न पर बढ़ जाइए । यदि बाद में समय मिले, तो जिन प्रश्नों को आपने शुरू में छोड़ दिया था उन पर पुनः वापस आकर उनके उत्तर देने की चेष्टा कीजिए ।
7. प्रत्येक पृष्ठ के नीचे रफ कार्य के लिए स्थान दिया गया है ।
8. प्रत्येक प्रश्न का उत्तर पृथक् से दिये उत्तर-पत्रक में उसी प्रश्न के सामने दिये गये विकल्पों में से सही विकल्प वाली संख्या के गोले को H.B. पेंसिल से काला कर देना है । उत्तर-पत्रक के पृष्ठ भाग में दिये गये निर्देशों को भी भली-भाँति पढ़ लें ।
5. Begin with the first question and keep on attempting one question after another till you finish.
6. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. If time permits, you can come back to the questions which you have left in the first instance and try them again.
7. Space has been provided for rough work at the bottom of each page.
8. Answer to each question is to be indicated by blackening, with H.B. pencil, the bubble (circle) of the correct alternative in the separately given Answer Sheet from amongst the ones given for the corresponding question in the test booklet. Please also read the instructions carefully, given on the back side of the Answer Sheet.

अब अगले पृष्ठ पर दिये गये प्रश्नों के उत्तर देना आरम्भ कीजिये ।

Now go to the next page and start answering the questions.

नोट — इस पुस्तिका में अपना रोल नम्बर लिखने और रफ कार्य के लिए दिये स्थान पर केवल रफ कार्य करने के अतिरिक्त कहीं कुछ न लिखिए ।

Note : Do not write anything anywhere in this booklet except your Roll Number and Rough Work at the places meant for it.

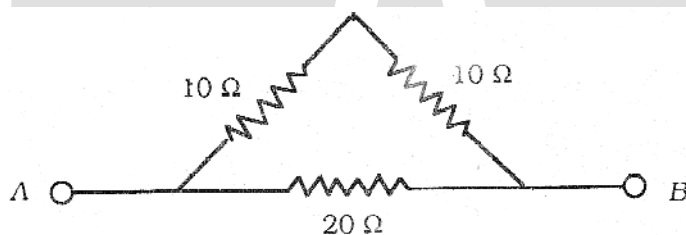
1. भौतिक विज्ञान (प्रश्न 1 से 25)

PHYSICS

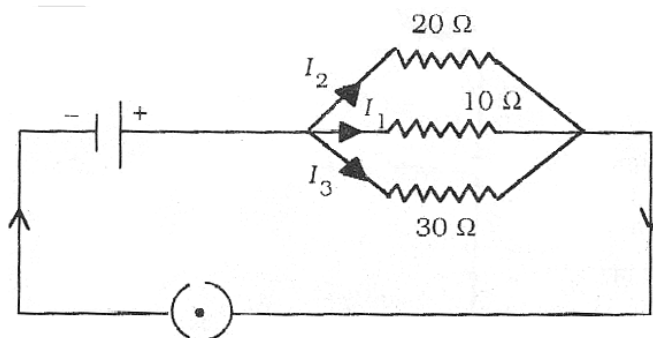
(Question Nos. 1 to 25)

1. The distance travelled by a car whose speed is 35 kmh^{-1} in 12 minutes will be
(1) 3.5 km (2) 7.5 km (3) 14 km (4) 28 km
2. The speed of a uniformly accelerated car changes from 18 kmh^{-1} to 36 kmh^{-1} in 5s. What is its acceleration in ms^{-2} .
(1) 1.0 (2) 1.5 (3) 2.0 (4) 1.5
3. The motion of an object is said to be uniform circular motion if the object
(1) moves on a circular path with constant speed
(2) moves on a circular path with constant velocity
(3) moves on a circular path with variable speed.
(4) none of these
4. A bullet of mass 10 g is horizontally fired with a velocity 150 ms^{-1} from a pistol of mass 5 kg. The recoil velocity of the pistol will be
(1) 0.5 ms^{-1} (2) 0.4 ms^{-1} (3) 0.3 ms^{-1} (4) 0.2 ms^{-1}
5. If A and B are two objects with masses 6 kg and 34 kg respectively then
(1) A has more inertia than B (2) B has more inertia than A
(3) A and B have the same inertia (4) None of the two has inertia
6. The mass of an object is 5 kg. Its weight on the surface of the earth will be
(1) 490 N (2) 0.49 N (3) 4.9 N (4) 49 N.
7. SI unit of pressure is
(1) Pascal (2) Newton (3) Joule (4) Watt
8. Relative density of silver is 10.8. The density of water is 1 gm cm^{-3} . Density of silver in SI unit will be
(1) $10.8 \times 10^{-3} \text{ kg m}^{-3}$ (2) 10.8 kg m^{-3} (3) 10^3 kgm m^{-3} (4) $10.8 \times 10^3 \text{ kg m}^{-3}$
9. Which physical quantity has kWh as its unit?
(1) Force (2) Momentum (3) Energy (4) Power
10. A force of 12 N displaces a body by 60 cm in its direction. The work done on the body will be
(1) 720 J (2) 7.2 J (3) 5 J (4) 0.2 J
11. An object of mass 2 kg is moving with a constant velocity 2 m s^{-1} . How much work is needed to be done against the object in order to bring it to rest?
(1) 1 J (2) 4 J (3) 8 J (4) 10 J
12. The minimum time interval needed between the original sound and the reflected sound for hearing a distinct echo is
(1) 0.2 s (2) 2.0 s (3) 0.1 s (4) 1.0 s
13. The audible range of sound for human beings is
(1) 2 Hz to 20 kHz (2) 2 Hz to 2 kHz (3) 20 Hz to 200 kHz (4) 20 Hz to 20 kHz
14. A person claps his hands near a high tower and hears echo after 0.2s. The speed of the sound is 300 ms^{-1} . The distance of the tower from the person is
(1) 30 m (2) 15 m (3) 6 m (4) 3 m
15. The image formed by a concave mirror is of the same size, real and inverted when the object is placed
(1) an infinity (2) between P and F (3) at F (4) at C

16. The focal length of convex lens is 50 cm. Its power in dioptr is
 (1) -2 (2) -1 (3) +2 (4) +1
17. The refractive index of glass is 1.5. If the speed of light in air is $3 \times 10^8 \text{ ms}^{-1}$ then its speed in glass will be
 (1) $2 \times 10^8 \text{ ms}^{-1}$ (2) $3 \times 10^8 \text{ ms}^{-1}$ (3) $4.5 \times 10^8 \text{ ms}^{-1}$ (4) $6 \times 10^8 \text{ ms}^{-1}$
18. The process of splitting white light into its seven constituent colours is called
 (1) Refraction (2) Dispersion (3) Scattering (4) Reflection.
19. The danger indicators (signal) are red in colour because
 (1) Scattering of red light is maximum (2) Scattering of red light is minimum
 (3) The wavelength of red light is minimum (4) None of these
20. Equivalent resistance between points A and B in the given circuit will be



- (1) 40 Ω (2) 30 Ω (3) 20 Ω (4) 10 Ω
21. Which of the following terms represents electrical power in a circuit?
 (1) $I^2 R t$ (2) $V I t$ (3) $I^2 R$ (4) $\frac{V^2}{R} t$
22. The electrical energy dissipated per second in a resistance of 4 Ω is 100 J. The current flowing through the resistance will be
 (1) 25A (2) 15A (3) 10A (4) 5A
23. The frequency of an alternating current is 50 Hz. In how much time does it reverse its directions?
 (1) 1/10 second (2) 1/100 second (3) 10 second (4) 100 second
24. Which of the following statements is true on the basis of the given circuit diagram?



- (1) I_1 is maximum (2) I_2 is maximum (3) I_3 is maximum (4) $I_1 + I_2 + I_3 = 0$
25. The magnetic effect of current was discovered by
 (1) Faraday (2) Millikan (3) Oersted (4) Thomson

2. रसायन विज्ञान
(प्रश्न 1 से 25)
CHEMISTRY
(Question Nos. 1 to 25)

1. The nuclei, which are not identical but have the same number of nucleons, are called
(1) isotopes (2) isotones (3) isobars (4) isoelectronic
2. Aqueous solution of which of the following compounds turns red litmus to blue?
(1) CO_2 (2) SO_2 (3) MgO (4) SO_3
3. The colloidal solution in which both dispersed phase and dispersion medium are liquids. is called
(1) Gel (2) Sol (3) Aerosol (4) Emulsion
4. Aqueous solution of copper sulphate can be stored in.....metal vessel.
(1) Al (2) Zn (3) Fe (4) Ag
5. Which group of modern periodic table contains gas. Liquid and solid nonmetallic elements?
(1) 12 (2) 13 (3) 17 (4) 18
6. Colloidal particles exhibit Tyndall effect due to
(1) Polarisation of light (2) Scattering of Light (3) Reflection of Light (4) Refraction of light
7. Which is correct statement?
(1) Sodium is non-reactive metal (2) Non-metals react with acids to give hydrogen
(3) Copper and silver are malleable and ductile (4) Non-metals do not show allotropy
8. Cinnabar is.....ore.
(1) Sulphide (2) Carbonate (3) Oxide (4) Sulphate
9. Ethanol is changed to ethanoic acid by
(1) Oxidation reaction (2) reduction reaction (3) Addition reaction (4) Substitution reaction
10. The action of soaps and detergents to remove the oily dirt by emulsification is due to
(1) Presence of hydrophilic group
(2) Presence of hydrophobic groups
(3) Presence of hydrophobic and hydrophilic groups
(4) Presence of hardness in water
11. Which functional group cannot be situated at terminal position?
(1) Carboxylic acid (2) Aldehyde (3) Alcohol (4) Ketone
12. Natural indicator is
(1) methyl orange (2) Phenolphthalein (3) Litmus (4) Methyl red
13. pH of soda water is
(1) 7 (2) between 7–9 (3) between 4 – 7 (4) 14
14. Number of atoms in 40 grams of He is
(1) 6.022×10^{22} (2) 6.022×10^{23} (3) 6.022×10^{24} (4) 6.022×10^{25}
15. Which metal cannot be extracted from its ore by reduction using carbon?
(1) Mg (2) Zn (3) Cu (4) Fe
16. The substance that gives Bleaching powder on reaction with chlorine is
(1) CaO (2) CaCO_3 (3) Ca(OH)_2 (4) CaCl_2
17. Number of covalent bonds in cyclohexane is
(1) 14 (2) 16 (3) 18 (4) 20

18. The substance made up of only one type of element is
(1) Common salt (2) Diamond (3) Water (4) Air
19. A metalloid with lowest atomic number belongs to.....group of periodic table.
(1) 11 (2) 12 (3) 13 (4) 14
20. Elements present in same group of periodic table are similar with respect to
(1) valence electrons (2) atomic radius (3) number of shells (4) mass number
21. organic compound is
(1) CO_2 (2) CaCO_3 (3) $\text{Ca}(\text{HCO}_3)_2$ (4) $(\text{NH}_2)_2\text{CO}$
22. Isotope of carbon that is isobar of stable isotope of nitrogen and isotone of stable isotope of oxygen is
(1) ${}^{12}_6\text{C}$ (2) ${}^{13}_6\text{C}$ (3) ${}^{14}_6\text{C}$ (4) ${}^{12}_6\text{C} +$
23. Which metal does not liberate hydrogen gas by reaction with H_2SO_4 ?
(1) Cu (2) Zn (3) Mg (4) Fe
24.ores are roasted to convert into oxides.
(1) Sulphide (2) Carbonate (3) Oxide (4) Halide
25. The allotropic form of carbon that shows conductivity is
(1) Coal (2) Diamond (3) Graphite (4) Fullerene

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3. जीव विज्ञान (प्रश्न 1 से 25)

BIOLOGY


(Question Nos. 1 to 25)

1. The name of the scientist presenting cell theory is
(1) Robert Brown (2) Leeuwenhoek (3) Virchow (4) Schleiden and Schwann
2. The growth in the girth of stem or root is due to which tissue?
(1) Lateral meristem (2) Apical meristem (3) Intercalary meristem (4) Parenchyma.
3. Which tissue is responsible for movement in our body?
(1) Epithelial tissue (2) Connective tissue (3) Muscular tissue (4) Nervous tissue.
4. The example of gymnosperm plant is
(1) Marchantia (2) Pinus (3) Marsilea (4) Chara
5. Which animal has an open circulatory system and kidney like organ for excretion?
(1) Palaemon (2) Planaria (3) Ascaris (4) Pila
6. Animals of which class have hairs on the skin, sweat glands and oil glands?
(1) Mammalia (2) Aves (3) Amphibia (4) Reptilia
7. Diseases caused by bacteria are
(1) Influenza and dengue fever (2) AIDS and Cholera
(3) Cholera and tuberculosis (4) Malaria and kala-azar
8. The gas responsible for depletion of the ozone layer is
(1) Chlorofluorocarbon (2) Methane (3) Carbon dioxide (4) Sulphur dioxide
9. Kharif crop is
(1) Gram (2) Wheat (3) Pea (4) Maize
10. Which animal is used for preparing Vermicompost?
(1) Hydra (2) Earthworm (3) Ascaris (4) Frog
11. Which animal is cultivated for the production of pearl?
(1) Oysters (2) Mussels (3) Prawn (4) Mullet
12. The variety of honeybee used in the commercial production of honey is
(1) Apis cerana indica (2) Apis dorsata (3) Apis florae (4) Apis mellifera
13. Pepsin acts as digestive enzyme in which organ?
(1) Intestine (2) Stomach (3) Liver (4) Mouth
14. Breaking down of pyruvate takes place in which cell organism?
(1) Ribosome (2) Golgi bodies (3) Lysosome (4) Mitochondria
15. The function of platelets is
(1) Transportation of O_2 (2) Storage of food material
(3) Controlling blood pressure (4) Clotting of blood
16. The plant tissue responsible for movement of water and minerals obtained from the soil is
(1) Parenchyma (2) Phloem (3) Xylem (4) Collenchyma
17. The organ that removes nitrogenous waste product from blood is
(1) Kidney (2) Liver (3) Lungs (4) Heart

18. The thinking part of the brain is
(1) Mid-brain (2) Hindbrain (3) Forebrain (4) Spinal cord
19. The growth of pollen tube towards ovules shows which phenomenon?
(1) Geotropism (2) Chemotropism (3) Phototropism (4) Hydrotropism
20. Presence of swollen neck is the symptom of which disease ?
(1) Goitre (2) Diabetes (3) Pellagra (4) Albinism
21. Multiple fission type of reproduction is found in
(1) Earthworm (2) Yeast (3) Hydra (4) Plasmodium
22. The example of unisexual flower is
(1) Hibiscus (2) Papaya (3) Mustard (4) Pea
23. The method of reproduction by which Leaf of Bryophyllum develops into new plant is called
(1) Budding (2) Binary fission (3) Multiple fission (4) Vegetative reproduction
24. Genotypic ratio in monohybrid cross is
(1) 2 : 1 : 1 (2) 3 : 1 (3) 1 : 2 : 1 (4) 1 : 3
25. In evolution, the wings of birds and bats are evidences of
(1) Homologous organ (2) Analogous organ (3) Fossils (4) Embryo

4. गणित
(प्रश्न 1 से 25)
MATHEMATICS
(Question Nos. 1 to 25)

1. Which one is the largest number among the following?
 (1) $0.37\bar{5}$ (2) $0.\overline{375}$ (3) $0.37\bar{5}$ (4) 0.375
2. If $x \sqrt[3]{2\frac{93}{125}} = .$ then value of x is
 (1) $1\frac{1}{5}$ (2) $2\frac{1}{5}$ (3) $1\frac{2}{5}$ (4) $\frac{2}{5}$
3. If the polynomials $ax^3 + 3x^2 - 13$ and $2x^3 - 5x + a$ are divided by $(x - 2)$ and leave the same remainder then the value of a is
 (1) 1 (2) 2 (3) $\frac{1}{2}$ (4) $\frac{1}{7}$
4. The value of k for which the following pair of linear equations has no solution is
 $(K - 1)x + 4y - 1 = 0$
 $4x + 9(k + 1)y + 2 = 0$
 (1) $\frac{4}{3}$ (2) $\frac{5}{3}$ (3) $\frac{16}{9}$ (4) $\frac{25}{9}$
5. A quadratic equation whose one root is 7 and the sum of roots is 5. is
 (1) $x^2 + 5x + 14 = 0$ (2) $x^2 - 5x - 14 = 0$ (3) $x^2 + 5x - 14 = 0$ (4) $x^2 - 5x + 14 = 0$
6. If $\frac{2}{3}$, k and $\frac{5}{8}k$ are three consecutive terms of an arithmetic progression, then the value of k is
 (1) $\frac{16}{33}$ (2) $\frac{7}{11}$ (3) $\frac{33}{16}$ (4) $-\frac{16}{33}$
7. The sum of first n terms of an arithmetic progression is $3n + n^2$, then common difference of this arithmetic progression is
 (1) $n + 1$ (2) n (3) 2 (4) $2n + 1$
8. If $\cos 2x = \sin (x - 39^\circ)$ and $3x$ is acute angle then value of x is
 (1) 40° (2) 29° (3) 43° (4) 90°
9. If $\sin A = \frac{3}{5}$ and $0 < A < 90^\circ$ then value of $(\sec A + \tan A)(1 - \sin A)$ is
 (1) $\frac{3}{4}$ (2) $\frac{4}{5}$ (3) $\frac{3}{5}$ (4) $\frac{2}{5}$
10. length of shadow of a pole is $\sqrt{3}$ times the height of a pole. Angle of elevation of sun is
 (1) 30° (2) 60° (3) 45° (4) 75°

18. Rain water from a roof of dimension $22\text{m} \times 20\text{m}$ drains into a cylindrical vessel having diameter of base 2m and height 3.5cm . If the vessel is just full, then the total rainfall in cm is
(1) 3.5 (2) 2.5 (3) 2 (4) 1.5
19. The perimeter of a sector of a circle of radius 5.2cm is 16.4cm . Then area of the sector is
(1) 80cm^2 (2) 21.6cm (3) 15.6cm^2 (4) 156cm^2
20. Three metallic spheres of radii 3cm , 4cm and 5cm respectively are melted to form a cone of radius 6cm . then the height of this cone is
(1) 24cm (2) 42cm (3) 60cm (4) 18cm
21. The slant height of a frustum of a cone is 5cm and the circumferences of its circular ends are $12\pi\text{cm}$ and $6\pi\text{cm}$.
(1) 3cm (2) 4cm (3) 5cm (4) 6cm
22. The mean of the following data is 3.2 . Then the value of x is

(1) 6 (2) 3 (3) 2 (4) 4
23. If the median of the following data written in ascending order is 16 . then value of x is
(1) 16 (2) 18 (3) 17 (4) 15
24. A box contains 20 cards which are numbered from 1 to 20. A card is drawn at random from the box. then the probability that it is a perfect square number is
(1) $\frac{2}{5}$ (2) $\frac{1}{20}$ (3) $\frac{1}{5}$ (4) $\frac{4}{5}$
25. Two dice are thrown at the same time. The probability that the sum of the numbers appearing on the top of the two dice is 9, is
(1) $\frac{9}{36}$ (2) $\frac{1}{6}$ (3) $\frac{2}{9}$ (4) $\frac{1}{9}$

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5. दिन—प्रतिदिन विज्ञान (प्रश्न 1 से 25)

DAY TO DAY SCIENCE

(Question Nos. 1 to 25)

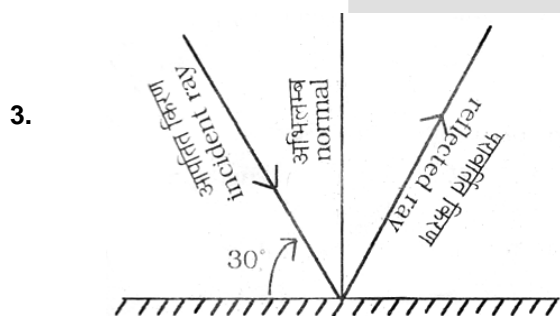
1. In which of the following speed of sound is maximum?
(1) Steel (2) Water (3) Hydrogen (4) Air
2. Which is known as the 'Country of Winds'?
(1) Germany (2) India (3) Denmark (4) Nepal
3. The conventional unit for domestic electrical consumption is
(1) kWh (2) kW (3) W (4) J
4. The speed of sound on increasing the temperature of the medium
(1) decreases (2) increases (3) remains unchanged (4) none of these
5. The acceleration of a freely falling body is
(1) $+9.8 \text{ ms}^{-2}$ (2) -9.8 ms^{-2} (3) not fixed (4) 0 ms^{-2}
6. Thermosetting polymer is
(1) terylene (2) PVC (3) Bakelite (4) Nylon 6,6
7. Which medicine is not antacid?
(1) Sodium hydrogen carbonate (2) Aluminium hydroxide
(3) Milk of magnesia (4) Aspirin
8. Natural rubber is
(1) Polyisopren (2) Neopren (3) Buna-S (4) Buna-N
9. The factor responsible for acid rain is
(1) Vaporisation of polluted water (2) Presence of freons in atmosphere
(3) Presence of oxides of C,N,S in atmosphere (4) Greenhouse effect
10. The particles bombarded to cause nuclear fission are
(1) Neutron (2) Deuteron (3) Alpha particle (4) Beta particle
11. Which is not a natural fibre?
(1) Cotton (2) Silk (3) Wool (4) Dacron
12. Consider the following statements :
If p is a prime number such that p + 2 is also a prime number, the
I. $p(p + 2) + 1$ is a perfect square number.
II. 12 is a divisor of $p + (p + 2)$, if $p > 3$
Which of the above statement(s) is/are correct?
(1) Only I (2) Only II (3) Both I and II (4) Neither I nor II
13. The ratio of A to B is x : 8 and the ratio of B to C is 12 : y. If the ratio of A to C is 2 : 1, then the ratio of x to y is
(1) 3 : 4 (2) 4 : 3 (3) 1 : 6 (4) 1 : 12
14. Amit walked 30 m towards east, took a right turn and walked 80 m, then he took a left turn and walked 30 m. The shortest distance between his starting position and present position is
(1) 30 m (2) 60 m (3) 90 m (4) 100 m
15. From your pocket money, you have to save Rs 1 on first day. Rs. 2 on second day Rs. 3 on third day and so on. total money that will be saved in the month of October, 2014 is
(1) Rs. 496 (2) Rs. 500 (3) Rs. 992 (4) Rs. 31
16. A is twice as good a workman as B and together they finish a piece of work in 14 days. In how many days can A alone finish the work?
(1) 7 days (2) 18 days (3) 21 days (4) 28 days

17. In binary system number 101101 is written in decimal system as
(1) 35 (2) 45 (3) 40 (4) 50
18. The scientist who prepared sheep's clone was
(1) Dr. Ian Wilmut (2) S. Cohen (3) H. Boyer (4) Watson and Crick
19. In which marine algae maximum quantity of iodine is found?
(1) dillisk (2) Spirogyra (3) Kelp (4) Ulothrix
20. Example of totipotent cells in a living being is
(1) Nerve cells (2) Blastomeres (3) Epithelial cells (4) Muscle cells
21. Which bacteria is used to obtain human insulin?
(1) E. Coli (2) Vibrio cholerae (3) Salmonella (4) typhi
22. The technique used for removal of brain tumor is
(1) Biotechnology (2) Tissue culture (3) Lascr rays (4) Brachy therapy
23. Highest amount of which organic compound is found in Soyabean?
(1) Carbohydrate (2) Protein (3) Fat (4) Vitamin
24. The structure that transfers DNA from one animal to another is known as
(1) Cloning (2) Explant (3) Interferon (4) Vector
25. The technique applied for testing position and activittes of different structures in human body is
(1) Chemotherapy (2) CT Scan (3) X-ray (4) Biopsy

6. विज्ञान सम्बन्धी साधारण ज्ञान (प्रश्न 1 से 25)

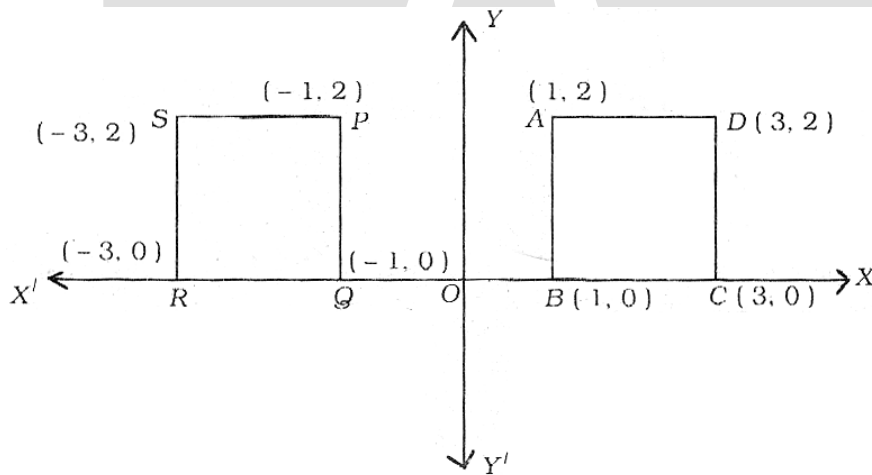
GENERAL KNOWLEDGE REGARDING SCIENCE (Question Nos. 1 to 25)

1. Weight of an object when we move it from pole to the equator
(1) Increases (2) Decreases (3) Remains constant (4) None of these
2. The orbit of each planet of the solar system is
(1) circular (2) parabolic (3) elliptical (4) rectangular



- The angle of reflection in the figure is
(1) 60° (2) 90° (3) 30° (4) None of these
4. Which lens is used to remove near-sightedness?
(1) Convex (2) Planoconvex (3) Planoconcave (4) Concave
 5. Household electrical appliances are connected in parallel so that
(1) Uniform current flows (2) Uniform voltage is received
(3) Energy consumption is high (4) None of these
 6. The process on which the energy produced in the sun is based, is
(1) Nuclear fusion (2) Nuclear fission (3) Pair production (4) None of these
 7. when an object is dipped in a liquid the force of buoyancy on the object is
(1) Equal to the weight of the object
(2) Equal to the weight of the displaced liquid
(3) Equal to the twice the weight of the displaced liquid
(4) None of these
 8. Hydrocarbon having highest octane number is
(1) Isohexane (2) n-hexane (3) Iso-octane (4) n-octane
 9. The chemical formula related to soap is
(1) C_2H_5COONa (2) $CH_3(CH_2)_{10}CH_2OSO_3Na$
(3) $CH_3(CH_2)_{15}CH_2COONa$ (4) $CH_3(CH_2)_{11}$ SO_3Na
 10. The organic compound used as fire extinguisher is
(1) CO_2 (2) C_6H_6 (3) $COCl_2$ (4) CCL_4
 11. The role of added gypsum during manufacture of cement is to
(1) Facilitate gel formation (2) Decrease rate of setting
(3) Increase the weight of product (4) Make the cement impervious
 12. A fuel having highest thermal value is
(1) Hydrogen (2) Petrol (3) LPG (4) CNG

13. The property not present in chlorofluorocarbon compounds is
 (1) Non-toxic (2) Non-corrosive (3) Volatility (4) Inflammatory
14. A child was born on Friday, 1st October in a certain year. His age on Wednesday, 1st October, 2014 was
 (1) 3 years (2) 5 years (3) 4 years (4) 6 years
15. If the bacteria of a laboratory jar doubles everyday and the whole jar is filled with bacteria in 30 days, then number of days required to fill $\frac{1}{4}$ th of the jar is
 (1) 14 days (2) 28 days (3) 30 days (4) 20 days
16. A motor boat goes upstream on a river and covers the distance between two towns on the river bank in 6 hours. It covers this distance downstream in 5 hours. If the speed of the stream is 2 km/hours, then the speed of motor boat in still water will be
 (1) 20 km/hour (2) 22 km/hour (3) 29 km/hour (4) 25 km/hour
17. If in the given figure Y-axis works as a plane mirror then the image of point S(-3, 2) is



- (1) A (1, 2) (2) B(1, 0) (3) D(3, 2) (4) C (3, 0)
18. Producers in food chain are
 (1) Human (2) Plant (3) Frog (4) Insect
19. Mutation borne disease is
 (1) Cancer (2) Haemophilia (3) AIDS (4) Colour blindness
20. Disease caused by the deficiency of protein is
 (1) Beri-beri (2) Scurvy (3) Kwashiorkor (4) Rickets
21. World AIDS Day is celebrated on
 (1) 7th July (2) 1st December (3) 7th April (4) 5th May
22. The method used for preservation of liquid foodstuff is
 (1) canning (2) dehydration (3) pasteurization (4) salt solution
23. 'Grey revolution' is related to which production area?
 (1) Fertilizer (2) Milk (3) Potato (4) Fish
24. The field related with Amrita Devi Bishnoi National Award is
 (1) Human conservation (2) Energy conservation
 (3) Water conservation (4) Forest and wildlife conservation
25. In India the largest wind energy farm is established at
 (1) Mumbai (2) Bengaluru (3) Kanyakumari (4) Ahmedabad