This Question Paper contains 20 printed pages
(Part - A & Part - B)

Sl.No. 0601247

11 (E)

(MARCH, 2019)

Part - A : Time : 1Hour / Marks : 50

Part - B : Time : 2 Hours / Marks : 50

ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮೇಲ್ಭಾಗದ ಬಲಬದಿಯಲ್ಲಿ ಮುದ್ರಿಸಿರುವ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಸೆಟ್ ನಂಬರ್ ಅನ್ನು OMR ಶೀಟ್‌ನಲ್ಲಿ ಸರಿಯಾದ ಸ್ಥಳದಲ್ಲಿ ಕಪ್ಪಾಗಿಸಬೇಕು.

Set No. of Question Paper, circle against which is to be darken in OMR sheet.

06

(Part - A)

Time : 1 Hour] ***[Maximum Marks : 50***

Instructions :

1) **There are 50 Multiple Choice Questions (M.C.Q.) in Part - A and all questions are compulsory.**

2) **The questions are serially numbered from 1 to 50 and each carries 1 mark.**

3) **Read each question carefully, select proper alternative and answer in the O.M.R. sheet.**

4) **The OMR sheet is given for answering the questions. The answer of each question is represented by (A) O, (B) O, (C) O, (D) O. Darken the circle ● of the correct answer with ball-pen.**

5) **Set No. of Question Paper printed on the upper-most right side of the Question Paper is to be written in the column provided in the OMR sheet.**

6) **Rough work is to be done in the space provided for this purpose in the Test Booklet only.**

Rough Work

1) Which of the following contains tartaric acid?

(A) Lemon

(B) Vinegar

(C) Orange

(D) Tamarind

2) Which components are used in preparation of scientific balance and light instruments?

(A) Copper, Zinc

(B) Aluminium, Magnesium

(C) Copper, Tin

(D) Nickel, Chromium, Manganese, Iron

3) Which material is used to bring melting point lower in electrochemical reduction to obtain aluminium from alumina?

(A) Anhydrous calcium chloride

(B) Feldspar

(C) Slag

(D) Cryolite

4) By which process metal can be obtained from metal oxide?

(A) Liquefaction

(B) Calcination

(C) Reduction

(D) Roasting

5) Sulphuric acid is produced by contact process. Which is the another method by which sulphuric acid can be produced?

(A) Ostwald's process

(B) Lead chamber process

(C) Haber's process

(D) Frasch process

6) Which gas is used as preservatives in juice of fruits, in jam and drying of fruits?

(A) SO_2

(B) NH_3

(C) CO_2

(D) H_2

7) Which catalyst is used to produce sulphur trioxide (SO_3) from sulphur dioxide (SO_2)?

(A) V_2O_5

(B) P_2O_5

(C) Pt

(D) Ni

8) Which statement is incorrect in context with Anthracite?

(A) It contains 94 - 98 % carbon

(B) It contains small proportion of volatile matter and moisture.

(C) Its heat energy is about 33 kJ/gram.

(D) When pure anthracite burns, amount of residues is very high.

9) What is the general formula of alkyne series?

(A) C_nH_{2n}

(B) C_nH_{2n-2}

(C) C_nH_{2n-6}

(D) C_nH_{2n+2}

10) When ethene is burnt in presence of air, it burns with sooty flame. What is the name of this soot?

(A) Carbon Black

(B) Coal

(C) Lamp Black

(D) Blue soot

11) Which gas is produced in reaction of calcium carbide with water?

(A) Methane

(B) Ethene

(C) Ethyne

(D) Hydrogene

12) Which polymer is used in preparation of non-stick cooking vessels?

(A) Polyvinylchloride

(B) Teflon

(C) Neoprene

(D) Polybutadiene

13) Which polymer is used for taking stitches after surgical operation?

(A) PHBV

(B) Dextran

(C) Polythene

(D) Styrene Butadiene Rubber (SBR)

14) Which resin is prepared from urea and formaldehyde?

(A) VF resin Foam

(B) FU resin Foam

(C) UF resin Foam

(D) FV resin Foam

15) Amoeba is unicellular animal. In Amoeba the process of obtaining food is called phagocytosis. Which is the correct sequence in nutrition of Amoeba?

(A) Ingestion → assimilation → digestion → absorption

(B) Ingestion → digestion → absorption → assimilation

(C) Ingestion → absorption → digestion → assimilation

(D) Ingestion → digestion → assimilation → absorption

16) During which process blood is filtered out in Bowman's capsule?

(A) Reabsorption

(B) Secretion

(C) Ultrafiltration

(D) None of them

17) Which statement is incorrect incontext with blood circulation in human?

(A) Oxygenated blood from right atrium is poured in to right ventricle.

(B) Deoxygenated blood from various organs comes in right atrium.

(C) In lungs CO_2 is released from blood.

(D) Due to contraction of right ventricle, the blood enters in to lungs.

18) By transfer of which material into phloem tissue, the osmotic pressure of tissue increases?

(A) Glucose

(B) Fructose

(C) Sucrose

(D) Glactose

19) Resins and gum are what type of material of a plant?

(A) Nutritive

(B) Growth promoter

(C) Structural

(D) Excretory

20) Which organ controls the process like coughing, sneezing?

(A) Cerebellum

(B) Parietal lobe

(C) Medulla oblongata

(D) Frontal lobe

21) Over secretion of which hormones in childhood, makes height of person more than 7 ft?

(A) TSH

(B) FSH

(C) GH

(D) LH

22) The cut of stem of plant (having root) is used for grafting is known as

(A) Stock

(B) Scion

(C) Cutting

(D) Bud

23) Which disease shows symptoms like lesions in mucus membrane of urinogenital track and ulcer in general?

(A) Gonorrhea

(B) AIDS

(C) Syphilis

(D) Reproductive organ Harpis

24) During reproduction in red wasp leaving in green leaf thorny bush, some wasp were found to be green in colour. Which is the correct reason for this from following?

(A) Green colour of wasp is associated with acquired traits

(B) Green colour of wasp is associated with change in genes

(C) Green colour of wasp is associated with green colour of leaf

(D) None of above

25) Which is the correct sequence of evolution in wild cabbage?

(A) Cabbage → broccoli → cauliflower → kohlrabi → kale

(B) Cabbage → cauliflower → broccoli → kohlrabi → kale

(C) Cabbage → broccoli → kohlrabi → cauliflower → kale

(D) Cabbage → kohlrabi → cauliflower → broccoli → kale

26) The most important compound which accounts for almost 80% of the total depletion of ozone layer is

(A) Chloride ion

(B) Chlorofluoro carbon

(C) Sulphur ion

(D) Magnesium ion

27) Ecosystem is madeup of which interacting system.

(A) Living organisms and physical surroundings

(B) Producers and consumers

(C) Producers and their physical surroundings

(D) Consumers and their physical surroundings

28) Use of solar energy operated devices instead of LPG for preparation of food is an example of :

(A) Reduce

(B) Reuse

(C) Recycle

(D) None of these

29) For which tree Amrita Devi Bisnoi sacrificed her life?

(A) Banyan tree

(B) Peepal tree

(C) Khejri tree

(D) Neem tree

30) Which of the following scientists emphasised on the concept of 'miniaturisation' in order to improve the functional efficiency of the material or device?

(A) Prof. Richard P. Feynman

(B) K. Eric Drexler

(C) James Heath

(D) Sean O'Brie

31) 3-dimensional (3D) Printing, Holographic data storage, Optical computing, Quantum cryptography, Spintronics etc belongs to which of the following field?

(A) Biotechnology

(B) Information Technology

(C) Robotics

(D) Material Science

32) "Ray of light travels from optically rarer medium to optically denser medium, it moves towards normal and when it travels from optically denser to optically rarer medium it moves away from the normal is known as refraction of light".

Which of the following pentagon figures shows the correct refraction of light.

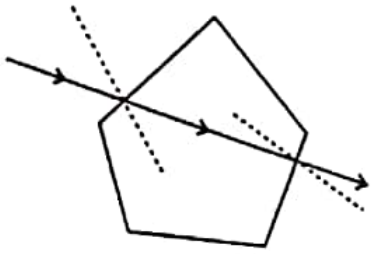


Figure a

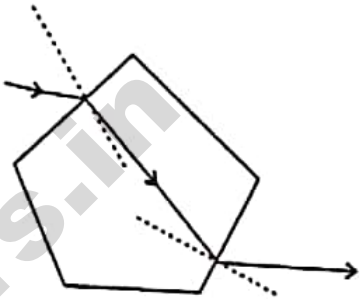


Figure b

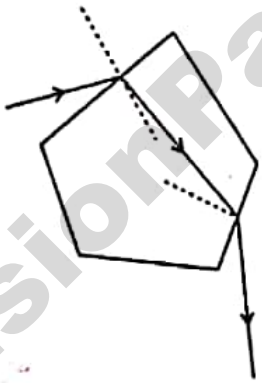


Figure c

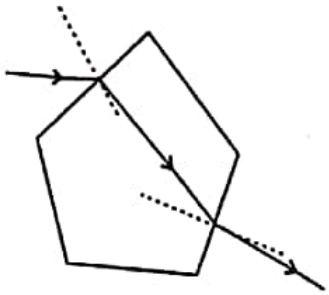


Figure d

(A) Figure a

(B) Figure b

(C) Figure c

(D) Figure d

33) The reciprocal of focal length of the lens is called power of lens (p). The power of lens can be measured in dioptre. The focal length of eye lens of eye of Jaishri is 25 cm. What is the power of eye lens of eye of Jaishri? Which type of lens's spectacles should she wear?

(A) + 4.0 D, convex lens

(B) – 4.0 D, concave lens

(C) + 4.0 D, concave lens

(D) – 4.0 D, convex lens

34) The coloured substances which are used as a paint are known as pigments. In order to obtain various pigments, the subtractive method is used for mixing the pigments. Which of the following colour is not absorbed by yellow and blue pigments?

(A) Green

(B) Orange

(C) Yellow

(D) Violet

35) Because of early sunrise and late sunset, the length of day becomes _____ minutes long.

(A) 0 minutes

(B) 2 minutes

(C) 4 minutes

(D) 8.5 minutes

36) The optical fibre used in signal communication works on which principle?

(A) Total Internal Reflection

(B) Reflection

(C) Refraction

(D) Dispersion

37) The attractive force results when a glass rod rubbed with a silk and a plastic rod rubbed with a fur brings together. During friction which type of charges are developed on glass rod and plastic rod?

(A) Positive charge on glass rod and negative charge on plastic rod.

(B) Negative charge on glass rod and positive charge on plastic rod.

(C) Positive charge on glass rod and positive charge on plastic rod.

(D) Negative charge on glass rod and negative charge on plastic rod.

38) Which of the following equation is known as Joule's law?

(A) $H = I^2Rt$

(B) $P = I^2R$

(C) $I = \frac{ne}{t}$

(D) $R = V/I$

39) In one circuit, resistance of wire is 10Ω. If it is connected with 2.5 V battery, how much electric current will flow through it?

(A) 0.25 mA

(B) 2.5 mA

(C) 25 mA

(D) 250 mA

40) Following figures shows graph of I → V. Which graph is correct according to Ohm's law?

(I = current, V = electric potential)

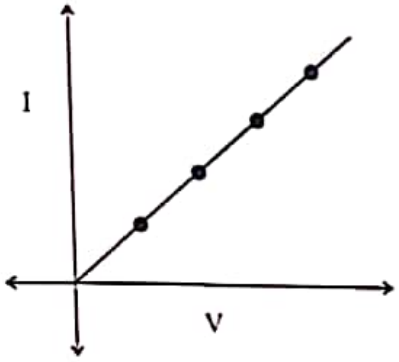


Figure a

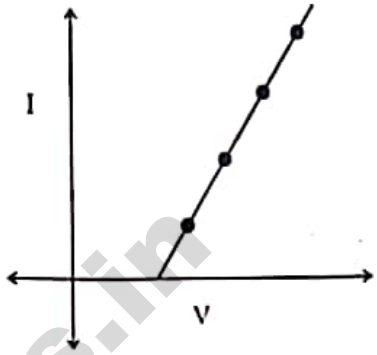


Figure b

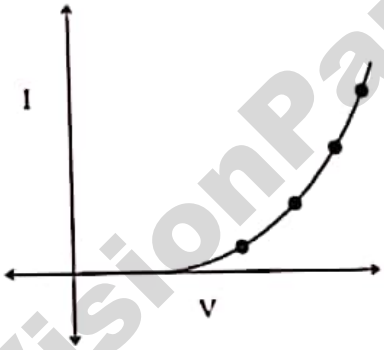


Figure c

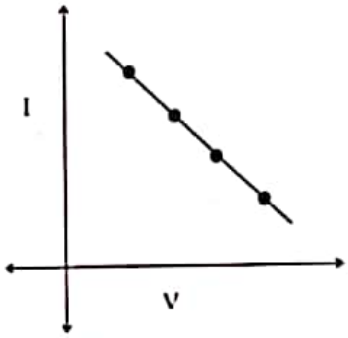


Figure d

(A) Figure a

(B) Figure b

(C) Figure c

(D) Figure d

41) According to Fleming's right hand rule, what does the direction of centre finger shows?

(A) Magnetic field

(B) Motion of conductor

(C) Induced electric current

(D) Magnetic force

42) At the centre of which of the following four circular rings has maximum magnetic field while passing equal current through each one?

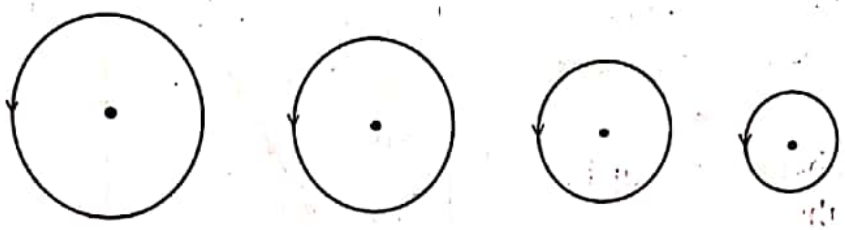
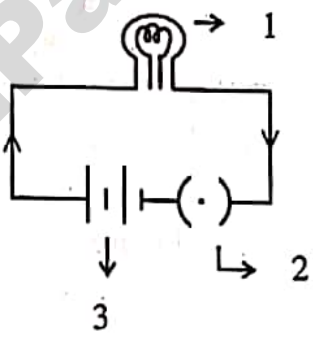


Figure a Figure b Figure c Figure d

(A) Figure a (B) Figure b

(C) Figure c (D) Figure d

43) In the given circuit diagram, identify the objects marked as 1, 2 and 3.



(A) Key, Bulb, Battery (B) Bulb, Key, Battery

(C) Key, Battery, Bulb (D) Battery, Key, Bulb

44) Which satellite is used for geographical survey?

(A) EDUSAT (B) INSAT-4A

(C) CARTOSAT (D) METSAT

45) What is the full form of LHC?

(A) Large Hadron Collider

(B) Light Hydrogene Cooler

(C) Lead Hadron Controller

(D) Light Hydrogene Collider

46) The earth takes 1 year to make a complete revolution around the sun whereas Pluto takes nearly 248 of our earth years to orbit the sun; what is the main reason for this?

(A) Pluto being small in size is slower than the earth.

(B) Pluto being more massive moves more slowly.

(C) Strong winds on the Earth makes it move faster.

(D) Pluto being far from the sun has to travel more distance than the earth.

47) What is the name of 400 km thick bright layer around the sun?

(A) Chromosphere (B) Sunspots

(C) Corona (D) Photosphere

48) When pH paper dipped in solution its colour gets changed. In following table colour of pH paper is shown in Section A and pH values in Section B. Select the correct answer.

Section A	Section B
1) Pink	a) 7
2) Light Green	b) 2
3) Green	c) 10
4) Blue	d) 8

(A) 1 ↔ b, 2 ↔ a, 3 ↔ d, 4 ↔ c

(B) 1 ↔ a, 2 ↔ b, 3 ↔ c, 4 ↔ d

(C) 1 ↔ b, 2 ↔ c, 3 ↔ d, 4 ↔ a

(D) 1 ↔ c, 2 ↔ d, 3 ↔ a, 4 ↔ b

49) What is the chemical formula of sodium zincate?

(A) $NaZn(OH)_3$ (B) $Na_2Zn(OH)_4$

(C) NaZnOH (D) $NaZn(OH)_4$

50) The aqueous solution having pH 2 is how many times more acidic than aqueous solution having pH 4?

(A) 10^2 (B) 1/2

(C) 2 (D) 10^{-2}

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(MARCH, 2019)

(Part - B)

Time : 2 Hours] *[Maximum Marks : 50*

Instructions :

1) **Write in a clear hand writing.**
2) **There are four sections in Part - B of the question paper and total 1 to 18 questions are there.**
3) **All questions are compulsory. Internal options are given.**
4) **The numbers at right side represent the marks of the questions.**
5) **Start new section on new page.**
6) **Maintain sequence.**
7) **Draw neat labelled diagram as per instructions.**

SECTION - A

■ **Write the answer in 30 words. Each question carries 2 marks.**

1) Although, nanotechnology is considered as an invention of modern science, but its use has been identified from long past. Give four examples of history of nanotechnology. **[2]**

OR

How nanotechnology is useful in the field of security? Explain.

2) Give the rules for how much metal is deposited on the electrode in the process of electrolysis? **[2]**

3) What is polymerisation? Explain it by equation. **[2]**

OR

Write four properties of methane.

4) What is lymph? Write the important function of lymphatic system. [2]

5) Write the types of food chain and explain it. [2]

SECTION - B

■ **Write the answer in 30 words. Each question carries 2 marks.**

6) Write general characteristics of Jovian planets. [2]

7) Calculate the pOH of 0.007 M aqueous solution of NaOH. (log 7 = 0.8451) [2]

8) Write four solutions to control diabetes. [2]

9) What are analogous organs? And how analogous organs provides evidence of evolution. Explain. [2]

OR

Explain the evolution of feather.

10) How dams are useful for society? [2]

SECTION - C

■ **Write the answer in 50 words. Each question carries 3 marks.**

11) Write note on twinkling of stars. [3]

12) Explain the working of electric motor with suitable diagram. [3]

OR

What is solenoid? Give the characteristics of magnetic field resulting from solenoid.

13) Write chemical equation for industrial production of dihydrogene gas and write its two uses. [3]

14) Write preparation of ethanoic acid with chemical equation and also write two uses of ethanoic acid. [3]

OR

Explain the cleansing process of soap and detergent.

15) Draw the labeled diagram of female reproductive system and explain any two organs of female reproductive system. [3]

SECTION - D

■ **Write the answer in details (In 100 words). Each question carries 5 marks.**

16) What is lateral shift? Explain the refraction of light through rectangular glass slab with diagram. [5]

17) Explain the liquefaction and zone refining method of refining of metals. (Draw diagram) [5]

OR

Explain the electrochemical reduction method to obtain aluminium from alumina with diagram.

18) Write the name and place of origin of any five enzymes generated in human digestive system and also writes their works. [5]

OR

What is nutrition? Explain the types of nutrition by examples.