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

Sl.No.

11 (E)

(MARCH, 2018)

પ્રશ્ન પેપરનો સેટ નંબર જેની સામેનું વર્તુળ OMR શીટમાં ઘટ્ટ કરવાનું રહે છે.
Set No. of Question Paper, circle against which is to be darken in OMR sheet.
01

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

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

(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 type of bond is formed by the carbon with other carbon atoms?

(A) Covalent (B) Ionic

(C) Metallic (D) Hydrogen

2) Due to development of which technology, antiaging drugs is invented?

(A) Information technology (B) Material Science

(C) Biotechnology (D) Robotics

Rough Work

3) Focal length of one convex mirror is 3m and object distance is 5m, then find the image distance.

(A) $\frac{8}{15}$ (B) 15/8

(C) 8/5 (D) –15/8

4) Which device is used to measure the power of lens?

(A) Spectrometer (B) Telescope

(C) Ultra microscope (D) Dioptometer

5) When white light is incident on a blue pigment, which colours are reflected?

(A) Green + Orange + Yellow

(B) Green + Blue + Violet

(C) Green + Orange + Violet

(D) Only Green

6) Optical fibre, which is used in communication, works on which principle?

(A) Reflection

(B) Total Internal reflection

(C) Dispersion

(D) Refraction

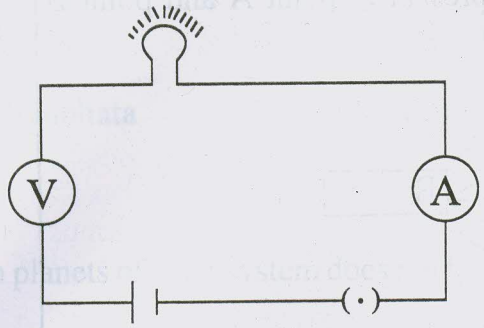
7) Which effect is responsible for blue colour of smoke?

(A) Magnetic effect (B) Thermal effect

(C) Electric effect (D) Tyndall effect

Rough Work

8) Which instrument is wrongly connected in circuit given below.



(A) Voltmeter (B) Ammeter

(C) Key (D) Battery

9) When 2A current is passing through a conductor in 10 seconds, 80 J heat is produced then find the resistance of conductor.

(A) 2Ω (B) 0.2Ω

(C) 4Ω (D) 0.4Ω

10) Conventionally which coloured wire is used for earthing?

(A) Red (B) Black

(C) Green (D) White

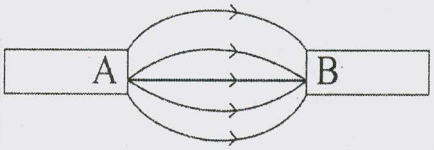
11) Which device is used to check the presence of electric current?

(A) Fuse (B) Galvanometer

(C) Voltmeter (D) Ammeter

Rough Work

12) In the figure, magnetic field between two magnets is shown. Which magnetic poles are present at point A and point B respectively of magnets?



(A) South pole, North pole

(B) North pole, South pole

(C) North pole, North pole

(D) South pole, South pole

13) Why tail of comets is formed, when it comes closer to sun?

(A) Dust particle in the comets gets heated

(B) When it comes closer to sun, vapour converts in to ice

(C) Ice presents in the comets gets vapourised

(D) Water presents in comets gets cooled

14) Which statement of the following provides the correct information about stars?

(A) Temperature of blue coloured star is more than red coloured star.

(B) Temperature of blue coloured star is less than red coloured star.

(C) Stars, having blue colour and having red colour has same temperature

(D) There is no relation between colour and temperature of star

15) Which of the following is not a natural satellite?

(A) Triton (B) Demos

(C) Aryabhata (D) Sheron

16) Which planets of solar system does not have natural satellite?

(A) Mercury and Mars

(B) Venus and Mercury

(C) Pluto and Neptune

(D) Venus and Mars

17) What is Bronsted-Lowry acid?

(A) Substance which donates proton

(B) Substance which donates neutron

(C) Substance which donates electron

(D) Substance which accepts proton

18) Which statement is wrong regarding pH scale?

(A) Sorensen represented per pH scale

(B) pH scale is ranged from 0 to 14

(C) pH scale is applicable to non-acqueous solution only

(D) pH scale is applicable to acqueous solution only

Rough Work

Rough Work

19) Vankarbhai has explained the definition of acid and base, given by Robert Boyle, in the classroom. Then after students of classroom had gave some suggestion regarding acid-base. Which suggestion is wrong among these?

Prashant: Acids are sour in taste and bases are bitter in taste

Dhruvi: Acid does not give any effect on wet blue litmus paper while base turns wet litmus paper in blue.

Sejal: Acids liberates dihydrogen gas (H_2) by reaction with metal. Base does not react with all metals.

Jaydeep: By neutralisation reaction between acid and base, salt and water is produced.

(A) Prashant is right. Dhruvi, Sejal and Jaydeep are wrong

(B) Dhruvi is right. Sejal, Prashant and Jaydeep are wrong

(C) Dhruvi is wrong. Sejal, Prashant and Jaydeep are right

(D) All are wrong

20) Which substance is not used for remedy of acidity?

(A) $NaHCO_3$ (Sodium bicarbonate)

(B) $Mg(OH)_2$ (milk of Magnesia)

(C) $CaCO_3$ (Calcium Carbonate)

(D) HCl (Hydrochloric acid)

21) $MgCO_3 \xrightarrow{\Delta} MgO + CO_2$ which reaction is this?

(A) Roasting (B) Calcination

(C) Smelting (D) Reduction

Rough Work

22) Which alloy is used to make an air craft?

(A) Magnalium (B) Duralumin

(C) Bronze (D) Brass

23) Which gas is used as preservative in fruit juice and Jams?

(A) NH_3 (B) SO_2

(C) H_2 (D) CO_2

24) Rameshbhai said "when surface of any metal comes in contact with air, water or humidity, corrosion will starts." For this Divya, Darshna and Jigna gave certain statements. Whose statement is true?

Divya : When paint is applied on the surface of iron, corrosion will start.

Darshna: In test tube, iron is put in such a manner that half part of iron sinks in water, then corrosion will start.

Jigna : When surface of Aluminium kept open in air, there will be no corrosion.

(A) Divya and Darshna are right

(B) Divya and Jigna are right

(C) Jigna and Darshna are right

(D) Only Darshna is right

25) In preparation of which medicine ammonia is used?

(A) Paracetamol

(B) D - Cold

(C) Aspirin

(D) Para aminobenzoic acid

Rough Work

26) Make the correct pairs from the below mentioned (X) and (Y).

X		Y	
1)	Extraction of sulphur	p)	Contact process
2)	Production of nitric acid	q)	Frasch method
3)	Production of sulphuric acid	r)	Haber's process
4)	Production of ammonia gas	s)	Ostwald's process

(A) (1 - s), (2 - r), (3 - q), (4 - p)

(B) (1 -q), (2 - s), (3 - p), (4 - r)

(C) (1 - r), (2 - q), (3 - s), (4 - p)

(D) (1 - s), (2 - q), (3 - r), (4 - p)

27) Which substance from the following is not obtained during distructive distillation of mineral coal?

(A) Coal gas (B) Methane

(C) Coal tar (D) Coke

28) What is the chemical formula for acetone?

(A) CH_3COCH_3 (B) CH_3COOH

(C) CH_3OH (D) HCOOH

29) Which gas is obtained by reaction of calcium carbide with water?

(A) Methane (B) Ethane

(C) Ethyne (D) Propane

Rough Work

30) Which metal produces dihydrogen (H_2) gas by reaction with cold water?

(A) Mg (B) K

(C) Zn (D) Fe

31) Respiration in plants is different from respiration in animals with this regard, which statement is not suitable?

(P) Parts of plants performs respiration independently

(Q) There is little transport of gas from one part to another in plant

(R) Respiration in plants occurs at much slower rate than in animal

(S) Respiration in animals occurs at much slower rate than in plants

(A) Only P (B) Only Q

(C) Only S (D) Only R

32) Which of the following is the reaction occurring between alcohol and carboxylic acid in presence of concentrated H_2SO_4?

(A) Hydrolysis

(B) Beta elimination

(C) Saponification

(D) Esterification

Rough Work

33) Which of the following is not a use of acetic acid?

(A) In preparation of Vinegar

(B) In preparation of white lead

(C) As a reagent

(D) As a nail-paint remover

34) Which functional group is possessed by Aldehyde?

(A) $>C=O$ (B) $-COOH$

(C) $-CHO$ (D) $-OH$

35) The loss of water is form of water vapor from the aerial ports of plant is known by which name?

(A) Hydrolysis

(B) Transportation

(C) Transpiration

(D) Reduction

36) Which of the following is not a function of lymph?

(A) It returns the intercellular fluid to blood circulation

(B) In the villi of small intestine lymph vessels absorb lipids

(C) Protect against diseases

(D) It supplies the O_2 to different organs

Rough Work

37) Collecting tubule opens in which part?

(A) outer cortex (B) inner medulla

(C) renal pelvis (D) ureter

38) Which of the following statement is not suitable in context with GH (Growth Hormone)?

(A) Under secretion of GH leads to dwarfism

(B) Due to GH a person is identified as a male who possesses the characteristic of healthy beautiful woman

(C) Over secretion of GH leads to giantism

(D) Too much secretion of GH gives a appearance of person body like gorilla

39) Which of the following hormone prepares our body for action in emergency situation?

(A) testosterone

(B) growth hormone

(C) adrenaline

(D) insulin

40) What is temperature of testis?

(A) 2° to $3^{\circ}C$ more than body temperature

(B) Same as body temperature

(C) 2° to $3^{\circ}C$ lower than body temperature

(D) 5° to $6^{\circ}C$ more than body temperature

Rough Work

41) From which part the embryo gets nutrition?

(A) Placenta (B) Yolk

(C) Fallopian tube (D) Uterus sac

42) Which bacteria causes syphilis?

(A) treponema syphilis

(B) treponema disease

(C) treponema pallidum

(D) treponema palidium

43) The continuity of features from one generation to another is known as

(A) Evolution (B) Mutation

(C) Heredity (D) Generation

44) The organs which perform different functions but have the same basic structure are known as

(A) Homologous organs

(B) Analogous organs

(C) Homolytic organs

(D) Analytic organs

Rough Work

45) Which of the following is known as the structural and functional unit of environment?

(A) Food chain
(B) Food web
(C) Eco system
(D) Producers

46) Which of the following is an example of non-biodegradable waste?

(A) Fruits
(B) Vegetables
(C) Paper
(D) Polythene

47) From where the grazing food chain starts?

(A) producers
(B) consumers
(C) decomposers
(D) transformer

48) Science teacher Mamtaben gives certain statements regarding importance of ozone layer. Which statement is totally correct?

(i) Troposphere is not a nearest layer from the earth
(ii) At a height of about 50 km in the stratosphere, the ozone layer is located
(iii) Ozone is mix layer of all gases
(iv) Ozone acts as a umbrella for humans
(v) Ozone layer is harmful for living organism

(A) Only statement (i) and (v)
(B) Only statement (ii)
(C) Only statement (iv) and (v)
(D) Only statement (iii)

Rough Work

49) In which book names of endangered plant species are published?

(A) Green data book

(B) Red data book

(C) Endangered species book

(D) Yellow data book

50) One student makes a kaleidoscope using pieces of coloured glass. Which 'R' he has used to protect the environment?

(A) Reduce

(B) Reuse

(C) Recycle

(D) Repair

11 (E)

(MARCH, 2018)

(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

■ **Answer the following questions in short (30 words). Each question carries 2 marks.**

1) Explain the structure of carbon nanobuds. [2]

OR

Name the important areas related to nanotechnology.

2) What is electric current? Which device (instrument) is used to measure the electric current? [2]

3) The 1800C electric charge is passing through an electric bulb in one hour. How much current will pass through an electric bulb? [2]

4) What is solar system? Write the name of the planet of solar system in sequence. [2]

5) What is neutralisation process? Explain with chemical equation. [2]

OR

Explain importance of pH in soil.

SECTION - B

■ **Answer the following questions in short (30 words). Each of 2 marks.**

6) Write the four uses of dihydrogen gas. [2]

7) What is reflex action? Explain with example. [2]

8) What is menstruation and menopause? [2]

9) Distinct variations are observed more in the organism which reproduce sexually. Give scientific reason. [2]

OR

Possibilities of birth of male or female are same. Give scientific reason.

10) What are the steps to be taken to conserve the sources of energy? [2]

SECTION - C

■ **Answer the following questions in short (in 50 words). Each question carries 3 marks.**

11) Explain the formation of rainbow. (diagram is not required) **[3]**

12) Write the characteristic of magnetic field lines. (diagram is not required) **[3]**

OR

What precaution should be taken during the use of electricity?

13) Explain the preparation of ethene in laboratory by drawing figure. **[3]**

OR

Explain the destructive distillation of mineral coal in laboratory by drawing figure.

14) Write the preparation, properties and uses of propanone. **[3]**

15) What is blood vessels? Explain its types. **[3]**

SECTION - D

■ **Answer the following questions in details (in 100 words). Each question carries 5 marks.**

16) Derive $\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$ formula for spherical mirror. [5]

17) What is corrosion? Give the remedies for prevention of corrosion. [5]

OR

Explain the Hall-Heroult method to obtain the aluminium from alumina with diagram.

18) Explain the human digestive system. (diagram is not required) [5]

OR

What is respiration? Give its types and explain it with equations.

EEE