

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.

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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.

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

- (A) Ethane (B) Methane
(C) Ethyne (D) Propane

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

- (A) K (B) Mg
(C) Zn (D) Fe

Rough Work

3) 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 Q

(B) Only P

(C) Only S

(D) Only R

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

- (A) Beta elimination
- (B) Hydrolysis
- (C) Saponification
- (D) Esterification

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

- (A) In preparation of white lead
- (B) In preparation of Vinegar
- (C) As a reagent
- (D) As a nail-paint remover

6) Which functional group is possessed by Aldehyde?

(A) $-\text{COOH}$

(B) $>\text{C}=\text{O}$

(C) $-\text{CHO}$

(D) $-\text{OH}$

7) The loss of water in form of water vapor from the aerial parts of plant is known by which name?

(A) Transportation

(B) Hydrolysis

(C) Transpiration

(D) Reduction

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

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

(B) It returns the intercellular fluid to blood circulation

(C) Protect against diseases

(D) It supplies the O_2 to different organs

9) Collecting tubule opens in which part? gsebonline.com

(A) inner medulla

(B) outer cortex

(C) renal pelvis

(D) ureter

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

- (A) Due to GH a person is identified as a male who possesses the characteristic of healthy beautiful woman
- (B) Under secretion of GH leads to dwarfism
- (C) Over secretion of GH leads to gigantism
- (D) Too much secretion of GH gives a appearance of person body like gorilla

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

- (A) growth hormone gsebonline.com
- (B) testosterone
- (C) adrenaline
- (D) insulin

12) What is temperature of testis?

- (A) Same as body temperature
- (B) 2° to 3°C more than body temperature
- (C) 2° to 3°C lower than body temperature
- (D) 5° to 6°C more than body temperature

13) From which part the embryo gets nutrition?

- (A) Yolk
- (B) Placenta
- (C) Fallopian tube
- (D) Uterus sac

14) Which bacteria causes syphilis?

- (A) treponema disease
- (B) treponema syphilis
- (C) treponema pallidum
- (D) treponema palidium

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

- (A) Mutation
- (B) Evolution
- (C) Heredity
- (D) Generation

16) The organs which perform different functions but have the same basic structure are known as gsebonline.com

- (A) Analogous organs
- (B) Homologous organs
- (C) Homolytic organs
- (D) Analytic organs

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

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

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

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

19) From where the grazing food chain starts?

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

20) 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 **gsebonline.com**
~~(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 (ii)
(B) Only statement (i) and (v)
(C) Only statement (iv) and (v)
(D) Only statement (iii)

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

- (A) Red data book
(B) Green data book
(C) Endangered species book
(D) Yellow data book

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

- (A) Reuse (B) Reduce
(C) Recycle (D) Repair

23) Which type of bond is formed by the carbon with other carbon atoms? gsebonline.com

- (A) Ionic (B) Covalent
(C) Metallic (D) Hydrogen

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

- (A) Material Science
(B) Information technology
(C) Biotechnology
(D) Robotics

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

- (A) $15/8$ (B) $\frac{8}{15}$
(C) $8/5$ (D) $-15/8$

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

- (A) Telescope (B) Spectrometer
(C) Ultra microscope (D) Dioptrimeter

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

- (A) Green + Blue + Violet
- (B) Green + Orange + Yellow
- (C) Green + Orange + Violet
- (D) Only Green

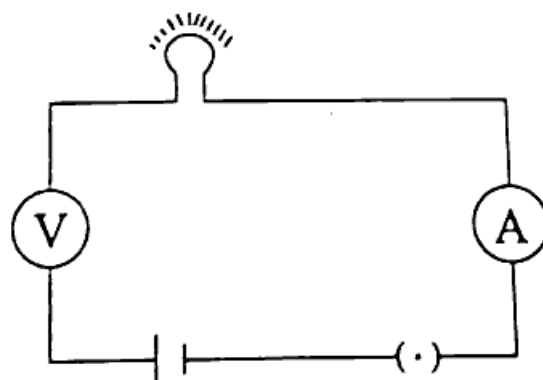
28) Optical fibre, which is used in communication, works on which principle?

- (A) Total Internal reflection
- (B) Reflection
- (C) Dispersion
- (D) Refraction

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

- (A) Thermal effect
- (B) Magnetic effect
- (C) Electric effect
- (D) Tyndall effect

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



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- (A) Ammeter
- (B) Voltmeter
- (C) Key
- (D) Battery

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

- (A) 0.2Ω (B) 2Ω
 (C) 4Ω (D) 0.4Ω

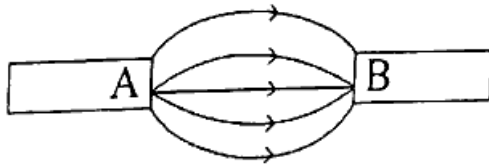
32) Conventionally which coloured wire is used for earthing?

- (A) Black (B) Red
 (C) Green (D) White

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

- (A) Galvanometer (B) Fuse
 (C) Voltmeter (D) Ammeter

34) 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) North pole, South pole
 (B) South pole, North pole
 (C) North pole, North pole
 (D) South pole, South pole

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

- (A) When it comes closer to sun, vapour converts in to ice
- (B) Dust particle in the comets gets heated
- (C) Ice presents in the comets gets vapourised
- (D) Water presents in comets gets cooled

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

- (A) Temperature of blue coloured star is less than red coloured star.
- (B) Temperature of blue coloured star is more than red coloured star. gsebonline.com
- (C) Stars, having blue colour and having red colour has same temperature
- (D) There is no relation between colour and temperature of star

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

- (A) Demos
- (B) Triton
- (C) Aryabhata
- (D) Sheron

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

- (A) Venus and Mercury
- (B) Mercury and Mars
- (C) Pluto and Neptune
- (D) Venus and Mars

- 39) What is Bronsted-Lowry acid?
- (A) Substance which donates neutron
 - (B) Substance which donates proton
 - (C) Substance which donates electron
 - (D) Substance which accepts proton

- 40) Which statement is wrong regarding pH scale?
- (A) pH scale is ranged from 0 to 14
 - (B) Sorensen represented per pH scale
 - (C) pH scale is applicable to non-aqueous solution only
 - (D) pH scale is applicable to aqueous solution only

- 41) Vankarbai 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. gsebonline.com

- (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

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

- (A) $\text{Mg}(\text{OH})_2$ (milk of Magnesia)
- (B) NaHCO_3 (Sodium bicarbonate)
- (C) CaCO_3 (Calcium Carbonate)
- (D) HCl (Hydrochloric acid)

43) $\text{MgCO}_3 \xrightarrow{\Delta} \text{MgO} + \text{CO}_2$ which reaction is this?

- (A) Calcination
- (B) Roasting
- (C) Smelting
- (D) Reduction

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

- (A) Duralumin
- (B) Magnalium
- (C) Bronze
- (D) Brass

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

- (A) SO_2
- (B) NH_3
- (C) H_2
- (D) CO_2

46) Rameshbhai said "when surface of any metal comes in contact with air, water or humidity, corrosion will start." 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. gsebonline.com

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 Jigna are right
- (B) Divya and Darshna are right
- (C) Jigna and Darshna are right
- (D) Only Darshna is right

47) In preparation of which medicine ammonia is used?

- (A) D - Cold
- (B) Paracetamol
- (C) Aspirin
- (D) Para aminobenzoic acid

48) 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 - q), (2 - s), (3 - p), (4 - r)

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

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

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

49) Which substance from the following is not obtained during destructive distillation of mineral coal? gsebonline.com

(A) Methane

(B) Coal gas

(C) Coal tar

(D) Coke

50) What is the chemical formula for acetone?

(A) CH_3COOH

(B) CH_3COCH_3

(C) CH_2OH

(D) HCOOH

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(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. gsebonline.com

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.