

SET - B

GSEB Batch : 10 th Std. Eng. Medium	MAHESH TUTORIALS SUBJECT : Science & Technology(011) Second Preliminary Exam Question Paper	Date: Marks : 50 Time: 1 Hrs.
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PART - A	
Instructions :	[1] All 1 to 50 objective questions are compulsory. (Write your answer in the OMR Answer Sheet given separately.) [2] All objective questions carry equal marks. Each of 1 mark . [3] A O, B O, C O, D O are given for each questions in the given separate OMR Answer Sheet. You have to dark compulsory ● the circle(O) with pen to the correct answer from the given alternatives.
1.	What is the approximate diameter of human hair?
	(a) 750nm (b) 7500nm (c) 75000nm (d) 50,000nm
2.	The tensile strength of carbon nanotubes is times more than that of steel.
	(a) 10 (b) 60 (c) 100 (d) 50
3.	What is the velocity of light in km/s ?
	(a) 3×10^8 (b) 3×10^5 (c) 3×10^{11} (d) 3×10^{24}
4.	Final image formed by a telescope is
	(a) Real (b) Erect (c) Horizontal (d) Inverted
5.	Primary colours are _____ .
	(a) red, blue, yellow (b) red, orange, yellow (c) red, blue, green (d) red, green, cyan
6.	Where does the image form in a human eye?
	(a) Cornea (b) Eyeballs (c) Iris (d) Retina
7.	Which optical phenomenon is responsible for mirage?
	(a) only refraction (b) reflection (c) refraction and total internal reflection (d) only total internal reflection
8.	Who gave the law for finding the force between two charges ?
	(a) Volta (b) Ampere (c) J.J. Thomson (d) Coulomb
9.	In volta's cell, anode is _____ and cathode is _____ .
	(a) Carbon rod, Zinc plate (b) Copper plate, Zinc plate (c) Zinc plate, Copper plate (d) Copper plate, Carbon rod
10.	The process of depositing a layer of desired metal on another metallic object by using electricity is called _____ .
	(a) Electroplating (b) Electrolysis (c) Electrorefining (d) None of these
11.	1 mA = _____ μA
	(a) 10^6 (b) 10^3 (c) 10^{-6} (d) 10^{-3}
12.	The magnitude of an AC voltage used in India is _____ and the frequency is _____
	(a) 110V, 60Hz (b) 110V, 50 Hz (c) 220V, 50Hz (d) 220V, 60 Hz
13.	Who gave the law of electromagnetic induction?
	(a) Faraday (b) Oersted (c) Ampere (d) Volta

14.	Electric circuit fuse is used because _____. (a) It increase the voltage (b) It increase the current (c) It saves the electric energy (d) It protects the electrical appliances from damage
15.	What is the approximate distance of our sun from galactic centre of Milky Way galaxy? (a) 30,000 km (b) 30,000 miles (c) 30,000 lakh km (d) 30,000 light years
16.	The first and the biggest asteroid discovered is _____. (a) Vista (b) Ceres (c) Halley (d) Titan
17.	When was the Halley's comet seen last? (a) 1976 (b) 1986 (c) 1994 (d) 1997
18.	Which of the following is not artificial satellite? (a) Insat (b) Rohini (c) Phobos (d) Sross
19.	Acid turns _____. (a) Red litmus paper blue (b) Blue litmus paper red (c) Both (d) None
20.	What is the pH of coffee? (a) 4.5 to 5.5 (b) 4.6 to 5.6 (c) 4 to 5 (d) 5 to 6
21.	Pepsin in stomach becomes active at pH _____. (a) 3 and 4 (b) 1 and 3 (c) 2 and 3 (d) 8 and 9
22.	pH is applicable to _____. (a) aqueous solution (b) solids (c) gases (d) liquids
23.	What is present in atmosphere ? (a) Mostly metalloids (b) Mostly nonmetallic (c) Mostly nonmetallic gases (d) Mostly metallic gases
24.	$\text{Al}_2\text{O}_3 \cdot 2\text{H}_2\text{O} \rightleftharpoons \text{Al}_2\text{O}_3 + \text{_____ H}_2\text{O}$ (a) 1/2 (b) 2 (c) 1/3 (d) 3
25.	Which alloy is used to solder the electric wires ? (a) Copper + zinc (b) Aluminium + magnesium (c) Lead + tin (d) Copper + tin
26.	Which Non- Metal possesses luster? (a) Bromine (b) Chlorine (c) Iodine (d) Fluorine
27.	What acts as catalyst in hydrogenation reaction ? (a) Platinum (b) Iron (c) Cobalt (d) Nickel
28.	What is responsible for allotropy? (a) Different arrangement of atoms (b) Different valencies (c) Different electronic structure (d) Different bonding
29.	Sulphur containing, lower type of coal is present in Gujarat near _____ . (a) Valsad (b) Kachh (c) Ankleshwar (d) Baroda
30.	How many liters of oil was drilled each day from Makum? (a) 1350 (b) 1400 (c) 1300 (d) 1200

31.	Which of the following fractions has largest number of carbons? (a) Tar (b) Kerosene (c) Diesel oil (d) Gasoline
32.	What is responsible for isomerism? (a) Catenation (b) Tetravalency (c) Both a and b (d) None of above
33.	Which of the following compounds is obtained by fermentation reaction of molasses? (a) Chloromethane (b) Ethanol (c) Acetone (d) All the given
34.	Oxidation of methanol gives _____ (a) Methanal (b) Methanoic acid (c) Methane (d) Methanone
35.	_____ and _____ are two examples of plastic. (a) Butadiene; polythene (b) Teflon; polyvinylchloride (c) Neoprene; Teflon (d) Polyethene; formalin
36.	The length of small intestine in a adult human being is about : (a) 4.5 m (b) 1.5 m (c) 3.5 m (d) 6.5 m
37.	The pulmonary artery supplies blood to (a) heart (b) brain (c) lungs (d) intestine
38.	Which part helps amoeba in the process of excretion? (a) Nephridium (b) General body surface (c) Osculum (d) Contractile vacuole
39.	Semilunar valves are present in (a) arteries (b) veins (c) capillaries (d) none of these
40.	Lymph carries _____. (a) Digested food (b) Absorbed food (c) Digested and Absorbed food (d) Water
41.	How many pairs of nerves arise from the spinal cord ? (a) 21 (b) 31 (c) 41 (d) 51
42.	Which is male sex hormone ? (a) Estrogen (b) Adrenaline (c) Testosterone (d) Progesterone
43.	Through tubectomy (a) Entry of sperms are prevented in the oviduct. (b) Entry of ovum is prevented in the oviduct. (c) Specific chemical is use to kill sperms. (d) Release of ovum from the ovary is prevented.
44.	NACO means (a) National AIDS Control Oraganization. (b) National AIDS Communication Organization. (c) National Acuired Control Organization. (d) National Address Communication
45.	Pure Tall pea plant and pure dwarf pea plant when crossed (hybridized) in F₁ generation _____. (a) All plants obtained were tall (b) All plants obtained were dwarf (c) Tall and dwarf plants obtained in the ratio 1 : 1 (d) None

- 46. The continuity of features from one generation to another is known as _____.**
(a) Evolution (b) Mutation (c) Heredity (d) Generation
- 47. Which is the main energy source for an ecosystem ?**
(a) Glucose (b) Green plant (c) Sunlight (d) Protein
- 48. What is the role of decomposers in an ecosystem ?**
(a) Converts inorganic elements in simple form
(b) Converts organic compound in inorganic elements
(c) Converts inorganic compounds in organic compounds
(d) Both B and C
- 49. In Gujarat total of _____sq km area is covered by the forest.**
(a) 18000 (b) 18999 (c) 18555 (d) None
- 50. Coal is a _____ based fuel.**
(a) Potassium (b) Nitrogen (c) Carbon (d) Calcium



SET - B

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PART - B		
Instructions :	[1] There are four sections in this question paper and total 18 questions. [2] All questions are compulsory. [3] Take care of internal options in the question paper. [4] Draw neat, clean and labelled diagram as directed. [5] The number on the right-hand indicates marks. [6] Write the answer of questions according to the section.	
SECTION - A		
Answer the following questions : [2 marks]		10
1.	Discuss the structure and configuration of a Bucky ball. OR	
1.	Why is carbon a fundamental element in nanotechnology? Explain.	
2.	Define Electric power. Derive its formula and unit. Define 1 watt power. OR	
3.	Give general methods of preparation of ethene.	
3.	Discuss the properties of ethene gas and explain the unsaturation present in it through reaction with bromine water.	
4.	Disntiguish between Equatorial orbit and Polar orbit	
5.	How are bases formed ?	
SECTION - B		
Answer the following questions : [2 marks]		10
6.	Name and explain types of blood vessels.	
7.	Write a note on Autonomous nervous system.	
8.	Note down the types of biotic components. OR	
9.	What is Heredity ?	
9.	Describe how fossils are formed.	
10.	Note down the importance of wild life.	
SECTION - C		
Answer the following questions : [3 marks]		15
11.	Describe the formation of mirage through an appropriate figure.	
12.	Describe the principle, construction and working of an electric generator with a figure. OR	
12.	Describe oersted experiment determining that a magnetic field is produced in straight conductor carrying current .	
13.	Write uses of dihydrogen gas. OR	
14.	Write shortnote on preparation of ethanoic acid.	
14.	Write a shortnote on formation of Nylon.	
15.	Explain in detail the types of fission.	
SECTION - D		
Answer the following questions : [5 marks]		15
16.	Obtain the general form of Snell's law in terms of refractive indices of two media?	
17.	Describe Hall-Heroult method for obtaining aluminium metal from alumina. OR	
17.	Explain chemical properties of Metals. OR	
18.	Explain Anaerobic respiration.	
18.	Explain the process of exchange of gases in leaves and stems.	
~~~~~ All the Best ~~~~~		