

**SET - A**

GSEB Batch : 10 <sup>th</sup> Std. Eng. Medium	<b>MAHESH TUTORIALS</b> <b>SUBJECT : Science &amp; Technology(011)</b> <b>Second Preliminary Exam</b> <b>Question Paper</b>	Date: Marks : 50 Time: 1 Hrs.
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<b>PART - A</b>	
<b>Instructions :</b>	[1] All <b>1 to 50</b> objective questions are compulsory. (Write your answer in the OMR Answer Sheet given separately.) [2] All objective questions carry equal marks. Each of <b>1 mark</b> . [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.
<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> <li>6.</li> <li>7.</li> <li>8.</li> <li>9.</li> <li>10.</li> <li>11.</li> <li>12.</li> </ol>	<p><b>The properties of a substance depend upon .....</b>                      (a) Arrangement of atoms (b) Number of atoms                      (c) Mass of atoms (d) Density of atoms</p> <p><b>Most important property of nano material is.....</b>                      (a) Force (b) Friction (c) Pressure (d) Temperature</p> <p><b>Light waves are ..... waves.</b>                      (a) non-mechanical (b) mechanical (c) longitudinal (d) none of these</p> <p><b>Which of the following has highest refractive index?</b>                      (a) Glass (b) Water (c) Pearl (d) Diamond</p> <p><b>Which colour of light has the least velocity in the prism?</b>                      (a) Red (b) Yellow (c) Indigo (d) Violet</p> <p><b>..... mixture method is used for preparing pigments of different colours.</b>                      (a) Additive (b) Subtractive (c) Both (d) None</p> <p><b>Far sightedness is caused due to ..... of light rays.</b>                      (a) Excessive convergence (b) Less Convergence                      (c) Less divergence (d) None of A, B, C</p> <p><b>_____ electric charges are responsible for the electric current in a conductor.</b>                      (a) Positive (b) Negative (c) Both (d) None</p> <p><b>1 A = _____ mA</b>                      (a) 100 (b) 10<sup>3</sup> (c) 10<sup>-3</sup> (d) 10<sup>-6</sup></p> <p><b>Silicon is _____.</b>                      (a) A conductor (b) An insulator                      (c) A semiconductor (d) A super conductor</p> <p><b>The distilled water acts as _____ for the electricity.</b>                      (a) Conductor (b) Insulator (c) Semiconductor (d) None of them</p> <p><b>The direction of magnetic field lines in a region outside the bar magnet is _____.</b>                      (a) From the N pole towards the S pole of a magnet.                      (b) From the S pole toward the N pole of a magnet.                      (c) In the direction coming out from both the poles of magnet.                      (d) In the direction entering in both the poles of magnet.</p>

- 13. Which type of current is obtained from a battery ?**  
 (a) DC current (b) AC current.  
 (c) Current of AC and DC both (d) Depends upon type of battery.
- 14. What is the frequency of 220 V DC voltage?**  
 (a) 50Hz (b) 60Hz (c) 220Hz (d) Zero
- 15. What is the peroidic time of Halley's comet ?**  
 (a) 67 yrs (b) 76 yrs (c) 86 yrs (d) 100 yrs
- 16. Venus spins \_\_\_\_\_ to \_\_\_\_\_.**  
 (a) East, West (b) North, South (c) South, North (d) West, East
- 17. The sun takes \_\_\_\_\_ crore years to complete one revolution.**  
 (a) 22 (b) 13.6 (c) 22.5 (d) 23
- 18. How much is the area covered by one nakshatra on ecliptic?**  
 (a)  $13^{\circ} 20'$  (b)  $20^{\circ} 12'$  (c)  $13^{\circ} 30'$  (d)  $23^{\circ} 20'$
- 19. Which of the following solutions is basic?**  
 (a) Lemon juice (b) Tamarind solution  
 (c) Buttermilk (d) Detergent solution
- 20. What donates proton in Bronsted Lowry theory?**  
 (a) Acid (b) Base (c) Water (d) Salt
- 21. What is correct for acidic aqueous solution?**  
 (a)  $[H_3O^+] = 10^{-7} M$  (b)  $[H_3O^+] < 10^{-7} M$  (c)  $[H_3O^+] > 10^{-7} M$  (d)  $[H_3O^+] < [OH^-]$
- 22. Which food nutrient induces acidity?**  
 (a) Protein (b) Carbohydrates (c) Lipids (d) Minerals
- 23. Copper is used in preparation of wires as it is \_\_\_\_\_.**  
 (a) Good conductor of electricity and malleable  
 (b) Malleable and ductile  
 (c) Good conductor of electricity and ductile  
 (d) Anti corrosive and ductile
- 24. Froth floatation method of concentration of ore is used for \_\_\_\_\_ type of ore.**  
 (a) Sulphide (b) Oxide (c) Sulphate (d) Hydrate
- 25. Calcium oxide reacts with sand to form \_\_\_\_\_**  
 (a) Gangue (b) Residue (c) Slag (d) None of these
- 26. Out of the total elements ..... are non metals.**  
 (a) 92 (b) 22 (c) 114 (d) 11
- 27.  $N_2O$  is \_\_\_\_\_ oxide.**  
 (a) Acidic (b) Basic (c) Neutral (d) Amphoteric

- 28. Make the correct pairs from below mentioned (X) and (Y)**

(X)	(Y)
(a) Sulphurous acid	(1) $H_3PO_4$
(b) Sulphuric acid	(2) $H_2S_2O_7$
(c) Oleum	(3) $H_2SO_3$
(d) Phosphoric acid	(4) $H_2SO_4$

- (a) (a-2) (b-3), (c-1), (d-4) (b) (a-4) (b-2), (c-1), (d-3)  
 (c) (a-3), (b-4), (c-2), (d-1) (d) (a-2), (b-3), (c-1), (d-4)

- 29. Which of the following is not a property of petroleum?**  
 (a) Viscous (b) Black (c) Dense (d) Not flammable
- 30. Which of the following is used as fuel?**  
 (a) Coal tar (b) Coal gas (c) Water gas (d) Ammonia
- 31. The presence of \_\_\_\_\_ in mineral is very harmful.**  
 (a) Nitrogen (b) Phosphorous (c) Sulphur (d) Carbon
- 32. \_\_\_\_\_ is used as pollution free fuel in automobiles.**  
 (a) SNG (b) PNG (c) LPG (d) CNG
- 33. What is called the compounds possessing (-CHO) functional group ?**  
 (a) Amide (b) Aldehyde (c) Ketone (d) Alcohol
- 34. Oxidation of ethanol gives \_\_\_\_\_**  
 (a) Acetic acid (b) Formic acid (c) Propanoic acid (d) Butanoic acid
- 35. Which of the following is the use of propanone ?**  
 (a) To remove nail polish (b) Antiseptic  
 (c) Antibiotic (d) As preservative
- 36. The main fundamental functions performed by living organisms to maintain their life are called \_\_\_\_\_ ?**  
 (a) Nutrition (b) Respiration (c) Life Processes (d) None
- 37. Which type of blood flows through all arteries?**  
 (a) Impure (b) Pure  
 (c) Toxic (d) With nitrogenous waste
- 38. What is the excretory organ in human being ?**  
 (a) Bowman's capsule (b) Nephron  
 (c) Urinary bladder (d) Kidney
- 39. Which plant tissue translocates carbohydrates, essential substances and plant hormones?**  
 (a) Xylem (b) Translocation cells  
 (c) Sieve pores (d) Phloem
- 40. Kidney is divided into ..... and .....**  
 (a) Cortex ; Medulla (b) Nephrons ; Bowman's capsule  
 (c) Cortex ; Nephrons (d) Medulla ; and Nephrons
- 41. The movement of plant toward the gravity is called \_\_\_\_\_**  
 (a) Hydrotropism (b) Geotropism (c) Chemotropism (d) Phototropism
- 42. By which process is the hand withdrawn when the prickle of rose pricks?**  
 (a) Autonomous action (b) Reflex action  
 (c) Thigmonastic action (d) Photonastic action
- 43. A multicellular organisms which reproduce by budding is:**  
 (a) Amoeba (b) Yeast (c) Paramecium (d) Hydra
- 44. In asexual reproduction, offsprings are produced similar, because .....**  
 (a) only one parent involves in it.  
 (b) two parents involve in it.  
 (c) reproductive cells are involve in it.  
 (d) reproductive cells does not involve in it.

45. **When Mendel crossed Tall plant with Dwarf plant what was the ratio of dwarf plants in  $F_2$  generation?**  
(a) 75% (b) 25% (c) 60% (d) 40%
46. **Which radioactive element (isotope) is used to determine the age of fossils?**  
(a)  $^{14}\text{C}$  (b)  $^{18}\text{O}$  (c)  $^{12}\text{C}$  (d)  $^{16}\text{O}$
47. **First order consumers are \_\_\_\_\_.**  
(a) Carnivores (b) Herbivores (c) Decomposers (d) Omnivores
48. **In the food chain comprising of a frog, snake, grass, grass-hopper, which organisms is at third trophic level in it ?**  
(a) Snake (b) Frog (c) Grass (d) Grass-hopper
49. **In which year Amrita Devi Bisnoi sacrificed her life for the protection of Khejri trees ?**  
(a) 1731 (b) 1763 (c) 1783 (d) 1873
50. **Which of the following activity is not helpful for the protection of environment?**  
(a) Social forestry (b) Rotation of crops  
(c) Recycling of used water (d) Deforestation



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<b>PART - B</b>		
<b>Instructions :</b>	[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.	
	<b>SECTION - A</b>	
	<b>Answer the following questions : [2 marks]</b> 1. "Nanotechnology plays by different rules." Explain the statement. <span style="float: right; border: 1px solid black; padding: 2px;">OR</span> 1. "Carbon forms backbone of biology of life on earth". Justify. 2. Give points of difference: Series and Parallel connection of resistors. 3. Write short note on preparation of ethene by cracking method OR Explain cracking reaction.	<b>10</b>
	<b>OR</b>	
	3. State the properties of ethyne gas. 4. Distinguish between Stars & Planets. 5. How are acids formed ?	
	<b>SECTION - B</b>	
	<b>Answer the following questions : [2 marks]</b> 6. Explain the flow of blood in heart. 7. Explain the detail structure of nerve cells. 8. Name compounds responsible for depletion of ozone layer. 9. What are fossils ? <span style="float: right; border: 1px solid black; padding: 2px;">OR</span> 9. In what way homologous organs give evidence for evolution ? 10. Note down the serious effects of Deforestation.	<b>10</b>
	<b>SECTION - C</b>	
	<b>Answer the following questions : [3 marks]</b> 11. Explain the formation of rainbow with a neat figure. 12. Describe the principle, construction and working of an electric motor along with figure.	<b>15</b>
	<b>OR</b>	
	12. Give the characteristics of magnetic field resulting from a solenoid ? 13. Write a short note on industrial preparation of dihydrogen gas. 14. Explain Silver mirror test. <span style="float: right; border: 1px solid black; padding: 2px;">OR</span> 14. Explain formation and uses of polyester polymer. 15. What is the basic difference between asexual reproduction and sexual reproduction?	
	<b>SECTION - D</b>	
	<b>Answer the following questions : [5 marks]</b> 16. Explain refraction due to rectangular slab. What is lateral shift? <span style="float: right; border: 1px solid black; padding: 2px;">OR</span> 17. Write a note in detail: Refining of metals by electrochemical method. 17. Describe Bayer's method for obtaining alumina from Bauxite. <span style="float: right; border: 1px solid black; padding: 2px;">OR</span> 18. Explain Aerobic respiration. 18. Describe the process of respiration in the following parts of a plant. (a) Root            (b) Stem            (c) Leaves	<b>15</b>
	~~~~~ <b>All the Best</b> ~~~~~	