## ATOMIC ENERGY CENTRAL SCHOOL - 5, MUMBAI MCQ TEST, JUNE 2024

CLASS: X
Time Allowed : 2 Hrs.
Maximum Marks : 100

|  | Section A - English |  |
| :---: | :---: | :---: |
| 1 | "For months they had barely kept themselves alive." This means that: <br> a. They had no desire to live <br> b. They were weak willed <br> c. They had great difficulties during the war <br> d. They were lazy | [1] |
| 2 | The boys had kept alive by : <br> a. Eating a lot <br> b. Begging for work and alms <br> c. Building a house of the rubble <br> d. Taking people for sightseeing and looting them | [1] |
| 3 | The above reflects on the qualities of boys like: <br> a. Diligence <br> b. Perseverance <br> c. Compassion <br> d. <br> Determination | [1] |
| 4 | "They had always known a comfortable and cultured life." Identify 'they': <br> a. The narrator and his friend <br> b. Nicolo and Jacopo <br> c. Some tourists <br> d. The guide at Juliet's tomb | [1] |
| 5 | By 'comfortable life' means:    <br> a. Inherited money b. Lot of salary <br> c. Parents were reasonably well off d. Parents were musicians | [1] |
| 6 | What kind of reaction did the animals display to the frog's songs? <br> a. They hated it <br> b. They adored it <br> c. They ignored it <br> d. They tried to improve it | [1] |
| 7 | Why were the creatures of the Bog dumbstruck? <br> a. The frog sang very well b. The nightingale sang melodiously <br> c. The moon shone brightly d. All the animals came to the same place | [1] |
| 8 | What did the frog claim to be?   <br> a. A publisher b. A king of the bog <br> c. A writer d. The owner of the sumac tree   | [1] |
| 9 | Who was Mozart?   <br> A famous artist b. A famous singer and musician <br> c. Writer of 'Bog Trumpet' d. Owner of the tree   | [1] |
| 10 | 'you must aim for better billings' the poetic device used here is:a. Alliteration b. Simile <br> c. Metaphor d. Onomatopoeia | [1] |
| 11 | What caused the death of the nightingale?   <br> a. She was unhappy b. Her throat got choked <br> c. A vein burst by too much exhaustion d. She had a high fever   | [1] |
| 12 | $\qquad$ man that we saw turned out to be thief. <br> a. <br> A <br> b. <br> The <br> c. <br> That <br> d. This | [1] |
| 13 | There isn't $\qquad$ cash left with us. <br> a. Some <br> b. so <br> c. More <br> d. much | [1] |
| Sec | on B - Hindi |  |
| 14 |  <br>  <br>  <br>  | [1] |


|  |  냄ㅁ <br>  <br>  <br>  <br>  <br> (i) <br> ख <br> ग) <br> 맴ㅁㅁ <br> (ii) <br> घ) |  |
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| 15 |  <br>  <br>  <br>  <br>  <br>  <br> घ) $\operatorname{\square }$ <br>  | [1] |
| 16 |  ㅁ? <br> क) कमल <br> ख <br> 맴ㅁㅁ <br> ग) <br> ग) 맴ㅁ <br> घ) | [1] |
| 17 |  | [1] |
| 18 |  <br>  <br> क) <br> ㅁㅁㅁ <br> ख <br> 믐ㅁ <br> ग) $\square \square \square$ <br> घ) | [1] |
| 19 |  | [1] |
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| 21 |  <br>  <br>  뭄 <br>  <br> घ) ㅁำ ㅁำ <br>  | [1] |
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| 25 |  १ロ? <br> क) प <br> ख <br>  <br>  | [1] |
| Section C - Mathematics |  |  |
| 26 | $\qquad$ is neither prime nor composite. <br> a) 4 <br> b) 1 <br> c) 2 <br> d) 3 | [1] |
| 27 | The sum of the exponents of the prime factors in the prime factorisation of 196 , is <br> a) 5 <br> b) 3 <br> c) 4 <br> d) 2 | [1] |
| 28 | If a is rational and $\sqrt{b}$ is irrational, then $a+\sqrt{b}$ is: <br> a) an irrational number <br> b) an integer <br> c) a natural number <br> d) a rational number | [1] |
| 29 | The number $(5-3 \sqrt{5}+\sqrt{5})$ is: <br> a) an integer <br> b) an irrational number <br> c) a whole number <br> d) a rational number | [1] |
| 30 | The LCM and HCF of two rational numbers are equal, then the numbers must be <br> a) equal <br> b) prime <br> c) co - prime <br> d) composite | [1] |
| 31 | According to the Fundamental Theorem of Arithmetic, if $p$ (a prime number) divides $b^{2}$ and $b$ is positive, then $\qquad$ <br> a) $p$ divides $b$ <br> b) b divides $p$ <br> c) $p^{2}$ divides $b$ <br> d) $b^{2}$ divides $p$ | [1] |
| 32 | (HCF $\times$ LCM) for the numbers 70 and 40 is: <br> a) 280 <br> b) 2800 <br> c) 10 <br> d) 70 | [1] |
| 33 | If 3 is the least prime factor of number 'a' and 7 is the least prime factor of number ' $b$ ', then the least prime factor of $a+b$, is <br> a) 3 <br> b) 10 <br> c) 5 <br> d) 2 | [1] |
| 34 | Ifn $=2^{3} \times 3^{4} \times 5^{4} \times 7$, then the number of consecutive zeros in $n$, where n is a natural number, is <br> a) 2 <br> b) 3 <br> c) 7 <br> d) 4 | [1] |
| 35 | LCM of $\left(2^{3} \times 3 \times 5\right)$ and $\left(2^{4} \times 5 \times 7\right)$ is <br> a) 560 <br> b) 1120 <br> c) 1680 <br> d) 40 | [1] |
| 36 | A quadratic polynomial the sum and product of whose zeroes are - 3 and 2 respectively, is: <br> a) $x^{2}+3 x-2$ <br> b) $x^{2}-3 x-2$ <br> c) $x^{2}-3 x+2$ <br> d) $x^{2}+3 x+2$ | [1] |
| 37 | If $\alpha, \beta$ are the zeros of $\mathrm{kx}^{2}-2 \mathrm{x}+3 \mathrm{k}$ such that $\alpha+\beta=\alpha \beta$ then $\mathrm{k}=$ ? <br> a) $\frac{-1}{3}$ <br> b) $\frac{1}{3}$ <br> c) $\frac{2}{3}$ <br> d) $\frac{7}{2}$ | [1] |
| 38 | If one root of the polynomial $p(y)=5 y^{2}+13 y+m$ is reciprocal of other, then the value of $m$ is <br> a) 6 <br> b) $\frac{1}{5}$ <br> c) 5 <br> d) 0 | [1] |


| 39 | Which of the following is a polynomial? <br> i. $\quad x^{2}-5 x+4 \sqrt{x}+3$ <br> ii. $\quad x^{3 / 2}-x+x^{1 / 2}+1$ <br> iii. $\quad \sqrt{x}+\frac{1}{\sqrt{x}}$ <br> iv. $\quad \sqrt{2} x^{2}-3 \sqrt{3} x+\sqrt{6}$ <br> a) Option (iv) <br> b) Option (ii) <br> c) Option (i) <br> d) Option (iii) | [1] |
| :---: | :---: | :---: |
| 40 | If $\alpha, \beta$ are zeroes of the polynomial $\mathrm{x}^{2}-1$, then value of $(\alpha+\beta)$ is: <br> a) 0 <br> b) 1 <br> c) -1 <br> d) 2 | [1] |
| 41 | If $p, q$ are the zeroes of the polynomial $f(x)=x^{2}+k(x-1)-c$, then $(p-1)(q-1)$ is equal to $\qquad$ <br> a) c <br> b) c - 1 <br> c) 1-c <br> d) $1+c$ | [1] |
| 42 | A quadratic polynomial whose sum and product of zeroes are 2 and -1 respectively is: <br> a) $x^{2}+2 x+1$ <br> b) $x^{2}-2 x-1$ <br> c) $x^{2}+2 x-1$ <br> d) $x^{2}-2 x+1$ | [1] |
| 43 | The zeroes of the quadratic polynomial $x^{2}+k x+k, k \neq 0$, <br> a) cannotbe both negative <br> b) cannot be both positive <br> c) are always equal <br> d) are always unequal | [1] |
| 44 | What should be added to the polynomial $x^{2}-5 x+4$, so that 3 is the zero of the resulting polynomial? <br> a) 4 <br> b) 2 <br> c) 5 <br> d) 1 | [1] |
| 45 | Which of the following is a quadratic polynomial having zeroes $\frac{-2}{3}$ and $\frac{2}{3}$ <br> a) $4 x^{2}-9$ <br> b) $\frac{4}{9}\left(9 x^{2}+4\right)$ <br> c) $5\left(9 x^{2}-4\right\}$ <br> d) $x^{2}+\frac{9}{4}$ | [1] |
| 46 | If $\alpha, \beta$ are the zeros of the polynomial $f(x)=x^{2}+x+1$, then $\frac{1}{\alpha}+\frac{1}{\beta}=$ <br> a) -1 <br> b) 1 <br> c) 2 <br> d) 0 | [1] |
| 47 | If one zero of the polynomial $6 x^{2}+37 x-(k-2)$ is reciprocal of the other, then what is the value of k ? <br> a) 6 <br> b) - 4 <br> c) -6 <br> d) 4 | [1] |
| 48 | If the zeroes of the quadratic polynomial $x^{2}+(a+1) x+b$ are 2 and -3 , then <br> a) $a=0, b=-6$ <br> b) $a=5, b=-1$ <br> c) $a=-7, b=-1$ <br> d) $a=2, b=-6$ | [1] |
| 49 | The graph of $y=p(x)$ is shown in the figure for some polynomial $p(x)$. The number of zeroes of $p(x)$ is/are: <br> a) 2 <br> b) 3 <br> c) 0 <br> d) 1 | [1] |
| 50 | The zeroes of the polynomial $\mathrm{p}(\mathrm{x})=\mathrm{x}^{2}+4 \mathrm{x}+3$ are given by: <br> a) $-1,3$ <br> b) $1,-3$ <br> c) 1,3 <br> d) $-1,-3$ | [1] |
| Sec | on D - Science |  |
| 51 | Which of the reaction is used in black and white photography? <br> a) Combination reaction <br> b) Decomposition reaction <br> c) Displacement reaction <br> d) Oxidation reaction | [1] |
| 52 | Choose a displacement reaction: <br> a) Burning of metals <br> b) Addition of more active metal to a solution of a less active metal compound. <br> c) Extraction of metals <br> d) Electrolysis | [1] |


| 53 | In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate of lead iodide is formed. While performing the activity if lead nitrate is not available, which of the following can be used in place of lead nitrate? <br> a) Ammonium nitrate <br> b) Potassium sulphate <br> c) Lead acetate <br> d) Lead sulphate (insoluble) | [1] |
| :---: | :---: | :---: |
| 54 | The pale green colour of the solution after half an hour when iron nails are dipped in copper sulphate solution is due to the formation of <br> a) FeS <br> b) $\mathrm{FeS}_{2}$ <br> c) $\mathrm{FeSO}_{3}$ <br> d) $\mathrm{FeSO}_{4}$ | [1] |
| 55 | The reaction between calcium oxide and water is: <br> a) Displacement reaction <br> b) Decomposition reaction <br> c) Combination reaction <br> d) Double - decomposition reaction | [1] |
| 56 | A small amount of a light green coloured compound X is heated in a test tube. In the beginning, it loses some water and then gas(es) Z with a suffocating smell come(s) out. The vapours of gas(es) are collected and dissolved in water. The solution turns blue litmus red. The residue Y left in the test tube turns reddish brown. $\mathrm{X}, \mathrm{Y}$ and Z could be respectively <br> a) $\mathrm{PbSO}_{4}, \mathrm{~Pb}_{2} \mathrm{O}_{3}$ and $\mathrm{SO}_{3}$ <br> b) $\mathrm{FeSO}_{4} \cdot 7 \mathrm{H}_{2} \mathrm{O}, \mathrm{Fe}_{2} \mathrm{O}_{3}$ and $\mathrm{SO}_{2}, \mathrm{SO}_{3}$ <br> c) $\mathrm{Pb}\left(\mathrm{NO}_{3}\right)_{2}, \mathrm{PbO}_{2}$ and $\mathrm{NO}_{2}, \mathrm{~N}_{2} \mathrm{O}_{4}$ <br> d) $\mathrm{Na}_{2} \mathrm{SO}_{4} \cdot 10 \mathrm{H}_{2} \mathrm{O}, \mathrm{Na}_{2} \mathrm{SO}_{4}$ and $\mathrm{SO}_{2}$ | [1] |
| 57 | Keeping food in air - tight containers helps to slow down: <br> a) Decomposition reaction <br> b) Reduction <br> c) Redox reaction <br> d) Oxidation | [1] |
| 58 | Which of the following is an exothermic reaction? <br> a) Reactants $\times$ heat $\rightarrow$ Products <br> b) Reactants - heat $\rightarrow$ Products <br> c) Reactants $\rightarrow$ Products - heat <br> d) Reactants $\rightarrow$ Products + heat | [1] |
| 59 | The reaction between barium chloride and sodium sulphate is called Double Decomposition reaction because: <br> a) the reactants interchange their ions to form two new compounds <br> b) All of these <br> c) a precipitate is formed <br> d) two new compounds are formed | [1] |
| 60 | When iodine was added to a particular vegetable that had been crushed into a paste, blue black colour was obtained. This indicates the presence of <br> a) protein <br> b) glucose <br> c) starch <br> d) sugar | [1] |
| 61 | During deficiency of oxygen in tissues of human beings, pyruvic acid is converted into lactic acid in the <br> a) Golgi body <br> b) Mitochondria <br> c) Chloroplast <br> d) Cytoplasm | [1] |
| 62 | Opening and closing of stomata is due to <br> a) Movement of water in and out of the guard cells. <br> b) Stimulus of light in the guard cells. <br> c) Diffusion of $\mathrm{CO}_{2}$ in and out of the guard cells. <br> d) High pressure of gases inside the cells. | [1] |
| 63 | Cramps are caused by heavy exercise resulting in the accumulation of <br> a) Heat <br> b) Ethanol <br> c) Carbon dioxide <br> d) Lactic acid | [1] |
| 64 | Each nephron has a cup shaped upper end called $\qquad$ , which contains a $\qquad$ <br> a) Bowman's capsule, Glomerulus <br> b) Bowman's capsule, Ampulla <br> c) Capillaries, Bowman's capsule <br> d) Ampulla, Glomerulus | [1] |
| 65 | Which component of blood transports, carbon dioxide, and nitrogenous wastes in dissolved form? <br> a) RBC <br> b) Plasma <br> c) Platelets <br> d) WBC | [1] |


| 66 | The internal (cellular) energy reserve in autotrophs is <br> a) Glycogen <br> b) Starch <br> c) Protein <br> d) Fatty acid | [1] |
| :---: | :---: | :---: |
| 67 | In the experiment to show that carbon dioxide is released during respiration the small test tube of KOH solution is suspended inside the conical flask to absorb the: <br> a) Oxygen of the flask. <br> b) Moisture of the flask. <br> c) Air of the flask. <br> d) Carbon dioxide of the flask released by the seeds. | [1] |
| 68 | If $R$ is the radius of curvature of a spherical mirror and $f$ is its focal length then: <br> a) $R=f$ <br> b) $\mathrm{R}=\frac{f}{2}$ <br> c) $R=3 f$ <br> d) $R=2 f$ | [1] |
| 69 | In torches, search lights and head lights of vehicles,the bulb is placed : <br> a) At the centre of curvature <br> b) Very near to the focus <br> c) Between the pole and the focus <br> d) Between the focus and the centre of curvature | [1] |
| 70 | The refractive index of water with respect to air is $\frac{4}{3}$. The refractive index of air with respect to water will be: <br> a) 0.50 <br> b) 0.75 <br> c) 0.25 <br> d) 1.75 | [1] |
| 71 | The angle of incidence for a ray of light passing through the centre of curvature of a concave mirror is: <br> a) 45 degree <br> b) 90 degree <br> c) 180 degree <br> d) 0 degree | [1] |
| 72 | You are given water, mustard oil, glycerine and kerosene. In which of these media a ray of light incident obliquely at same angle would bend the most? <br> a) Glycerine <br> b) Kerosene <br> c) Water <br> d) Mustard oil | [1] |
| 73 | As the incident angle is increased for a given pair of the medium, the refraction angle will <br> a) decrease <br> b) remains same <br> c) zero <br> d) increase | [1] |
| 74 | Four optical media W, X, Y and Z have optical densities 1.35, 1.21, 1.58 and 1.002 respectively. In which optical medium will the light travel fastest? <br> a) W <br> b) Y <br> c) Z <br> d) X | [1] |
| 75 | With an increase in the thickness glass slab the lateral displacement: <br> a) remains same <br> b) increases <br> c) decreases <br> d) zero | [1] |
|  | on E-Social Science |  |
| 76 | In which part of SriLanka are the SriLankan Tamils concentrated? <br> a) North and East <br> b) South and East <br> c) South and West <br> d) North and West |  |
| 77 | Name the headquarters of the European Union. <br> a) Brussels <br> b) Amsterdam <br> c) London <br> d) Germany |  |
| 78 | Which two languages among the following are prominently spoken by Belgium Nationals? <br> a) Russian and French <br> b) French and English <br> c) Dutch and French <br> d) Russian and Dutch |  |
| 79 | Under which of the following is power shared in the Community Government of Belgium? <br> a) Different social groups <br> b) State government and Community government <br> c) Central and State government <br> d) Different organs of government |  |
| 80 | Suppose in country A, 2 million children were born in 2017 and 80,000 died before the age of one? Then, What is the infant mortality rate of country A? <br> a) 30 <br> b) 60 <br> c) 80 <br> d) 40 |  |
| 81 | Which one of the following organizations prepares the World Development Report? <br> a) World Bank <br> b) International Monetary Fund <br> c) World Health Organisation <br> d) International Labour Organisation |  |
| 82 | According to 2011 census which of the following state has highest literacy rate (\%)? <br> a) Haryana <br> b) J\&K <br> c) Kerala <br> d) Bihar |  |
| 83 | Which of the following revolutions is called as the first expression of Nationalism? <br> a) French Revolution <br> b) Glorious Revolution |  |


|  | c) The Revolution of the liberals d) Russian Revolution |  |
| :---: | :---: | :---: |
| 84 | In revolutionary France, who were granted exclusive rights to vote? <br> a) All men <br> b) Property- owning men <br> c) All women <br> d) Property - owning women. |  |
| 85 | In history, which term refers to a form of monarchical government that was centralised, militarised, and repressive. <br> a) Despotic <br> b) Communalist <br> c) Democratic <br> d) Absolutist |  |
| 86 | A large part of the Balkans was under the control of which Empire? <br> a) Ottoman <br> b) Russian <br> c) Dutch <br> d) Portuguese |  |
| 87 | What territories did the Habsburg Empire rule over? <br> a) Hungary <br> b) Austria <br> c) Both Austria and Hungary <br> d) Romania |  |
| 88 | Why was the Treaty of Vienna drawn up in 1815? <br> a) To divide the German Confederation of 39 states <br> b) To restore the monarchies <br> c) To abolish tariff barriers <br> d) To unite the German Confederation of 32 states |  |
| 89 | Who among the following was proclaimed as the first German Emperor in 1871? <br> a) Friedrich Wilhelm IV <br> b) William II <br> c) William I <br> d) Friedrich Wilhelm I | [1] |
| 90 | In 1848, Frédéric Sorrieu, a French artist, prepared a series of four prints visualising his dream of a world made up of $\qquad$ . <br> a) democratic and social republics <br> b) absolutist and democratic <br> c) communal and social republics <br> d) majority and minority | [1] |
| 91 | In which state mining has caused severe land degradation? <br> a) Haryana <br> b) Punjab <br> c) Bihar <br> d) Jharkhand | [1] |
| 92 | What are gullies? <br> a) Deep channels created by seawater <br> b) Deep channels created by running water <br> c) Deep channels created by wind <br> d) Deep channels created by drainage water | [1] |
| 93 | Which one of the following soils develops in an area with high temperature and heavy rainfall? <br> a) Laterite <br> b) Alluvial <br> c) Red and Yellow <br> d) Black | [1] |
| 94 | Name the soil that has a higher concentration of Kanker nodules. <br> a) Khader <br> b) Black soil <br> c) Bangar <br> d) Yellow | [1] |
| 95 | In which of the following states black soil is predominantly found? <br> a) Jammu and Kashmir <br> b) Jharkhand <br> c) Maharashtra <br> d) Rajasthan | [1] |
| 96 | What option do we have if non - renewable resources get exhausted? <br> a) Shut down the use of energy <br> b) More invention of resources <br> c) Potential energy resources <br> d) Substitute resources | [1] |
| 97 | A Capitalist economy is also known as: <br> a) Free market economy <br> b) Socialist economy <br> c) Mixed economy <br> d) Communist economy | [1] |
| 98 | Which of the following countries has the highest Life Expectancy at the birth? <br> a) Pakistan <br> b) Nepal <br> c) India <br> d) Bangladesh | [1] |
| 99 | Economic development helps to increase: <br> a) Poverty <br> b) Rural income <br> c) Equality <br> d) Per capita income | [1] |
| 100 | Which one of the following options prove that India is a quasi - federal state? <br> 1. More powers with Centre <br> 2. Residuary subjects with Centre <br> 3. Equal subjects with Centre and States <br> 4. Currency and Railways with Centre <br> a) i, ii and iv <br> b) i, iii and iv <br> c) i, ii and iii <br> d) ii, iii and iv | [1] |

