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| **Template ID** | **ATUL\_CUET\_PHY\_HUMAN EYE\_001** | |
| **Template Name** | **Single Choice Question** | |
| **Topic** | **Physics** | |
| **Question Serial No** | **1** | |
| **Question Type** | **SCQ** | |
| **Subtopic** | **Standard Form of** | |
| **Instructions** | **Choose the single correct option** | |
| **Question Text** | The human eye is like a camera. Which of the following acts as a screen for this camera? | |
| **Options** | **A** | Retina |
| **B** | Cornea |
| **C** | Iris |
| **D** | Pupil |
|  |  |
|  |  |
| **Answers** | A | |
| **Solution** | The human eye is like a camera. Its lens system forms an image on a light-sensitive screen called the retina | |
| **Exams** | CBSE | |
| **Concept Tips** | <https://www.youtube.com/watch?v=uuWb1L2Vwsk> / <https://en.wikipedia.org/wiki/Human_eye> | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE - 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** | Eye | |
| **Secondary Concept** | Human eye | |
| **Remarks** |  | |

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| **Topic** | **Biology** | |
| **Question Serial No** | **2** | |
| **Question Type** | **MCQ** | |
| **Subtopic** | **Limit** | |
| **Instructions** | **Choose the single correct option** | |
| **Question Text** | Which of the following is the function of the human liver?  Diagram, engineering drawing  Description automatically generated | |
| **Options** | **A** | Production of bile |
| **B** | Metabolization of fats |
| **C** | Metabolization of carbohydrates |
| **D** | Production of blood proteins |
|  |  |
|  |  |
| **Answers** | A, B, C | |
| **Solution** | The human eye is like a camera. Its lens system forms an image on a light-sensitive screen called the retina  Diagram  Description automatically generated | |
| **Exams** | CBSE | |
| **Concept Tips** | Checking readability of image on system | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE – 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** |  | |
| **Secondary Concept** | text/pdf/video link | |
| **Remarks** |  | |

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| **Topic** | **Biology** | |
| **Question Serial No** | **3** | |
| **Question Type** | **SCQ** | |
| **Subtopic** |  | |
| **Instructions** | **<General instructions about the question>** | |
| **Question Text** | **Checking Font, *Checking Font***, **Checking Font** The IUPAC name of the following is:  A picture containing hanger  Description automatically generated | |
| **Options** | **A** | 3-Bromo-5-chlorononane |
| **B** | 5-Bromo-7-chlorononane |
| **C** | 5-Chloro-3-bromononane |
| **D** | 7-Chloro-5-bromononane |
|  |  |
| **Answers** | C | |
| **Solution** | The longest carbon chain contains 9 carbons, and all the carbon atoms are connected by single bond. Thus, the parent chain will be named as nonane. To give the lowest possible number to the halo groups attached *to the chain, numbering will be done from wight hand side*. So, Bromo (-Br) group is attached at third carbon and chloro group (-Cl) is attached at fifth carbon.  Diagram  Description automatically generated   * According to IUPAC naming rule, alphabetical order should be followed. Thus, the correct IUPAC name of the compound is 3-Bromo-5-chlorononane. | |
| **Exams** | IIT | |
| **Concept Tips** |  | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Moderate | |
| **PYQ** | JEE - 1999/JEE – 2004 , CBSE-2021 / CBSE - 1998 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** | g-drive.spreadsheet | |
| **Secondary Concept** | text/pdf/video link | |
| **Remarks** |  | |

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| **Topic** | **Biology** | |
| **Question Serial No** | **4** | |
| **Question Type** |  | |
| **Subtopic** | **Atmosphere** | |
| **Instructions** | Two statements are given, one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (A), (B), (C) and (D) as | |
| **Question Text** | **Assertion (A):** When white light enters a prism, it gets split into its constituent colours.  **Reason (R):** Different varieties of glass have different refractive indices. | |
| **Options** | **A** | Both A and R are true and R is the correct explanation of assertion. |
| **B** | Both A and R are true and R is not the correct explanation of the assertion. |
| **C** | A is true but R is false. |
| **D** | A is false but R is true. |
|  |  |
| **Answers** | B | |
| **Solution** | When white light enters a prism, it gets split into its constituent colours. Hence, Assertion (A) is true. Different varieties of glass have different refractive indices. Hence, Reason (R) is true. But the reason is not the correct explanation of the assertion.  Expected geometry-Octahedral and actual-Square pyramidal.  ICl4- =  Expected geometry-Octahedral and actual-Square planar.  SnCl2 =  Expected geometry-Trigonal planar and actual-V-shape or bent or angular.  XeF6  Expected geometry-Pentagonal pyramidal and actual-Distorted octahedral. | |
| **Exams** | IIT | |
| **Concept Tips** | <external link> | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE – 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** | text/pdf/video link | |
| **Secondary Concept** | text/pdf/video link | |
| **Remarks** |  | |

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| **Topic** | **Biology** | |
| **Question Serial No** | **5** | |
| **Question Type** | **SCQ** | |
| **Subtopic** | **Solar System** | |
| **Instructions** | **<General instructions about the question>** | |
| **Question Text** | The Earth is the fourth planet from the Sun? | |
| **Options** | **A** | True |
| **B** | False |
| **Answers** | B | |
| **Solution** |  | |
| **Exams** | IIT | |
| **Concept Tips** | <external link> | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE - 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** |  | |
| **Secondary Concept** | text/pdf/video link | |
| **Remarks** | Need imrovement | |

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| **Topic** | **Geography** | |
| **Question Serial No** | **6** | |
| **Question Type** |  | |
| **Subtopic** | **Atmosphere** | |
| **Instructions** | Arrange the acids(i-v) listed below in the decreasing order of their acid strength and justify: | |
| **Question Text** | i. Butanoic Acid  ii. Trichloro Acetic Acid  iii. Chloroacetic Acid  iv. Trimethyl Acetic Acid  v. Bromo Acetic Acid | |
| **Options** | **A** | iii>ii>v>i>iv |
| **B** | iii>ii>iv>i>v |
| **C** | ii>iii>v>i>iv |
| **D** | iii>ii>i>v>iv |
|  |  |
| **Answers** | B | |
| **Solution** | Given function  Differentiating both sides with respect to *x;* we get    Again,    Put these values in the equation        Hence, the given function is a solution of the differential equation | |
| **Exams** | IIT | |
| **Concept Tips** | <external link> | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE - 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** |  | |
| **Secondary Concept** | file:///C:/User/Desktop/leph106.pdf | |
| **Remarks** |  | |

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| **Topic** | **Biology** | | | | |
| **Question Serial No** | **7** | | | | |
| **Question Type** | **SCQ** | | | | |
| **Subtopic** | **Human Eye** | | | | |
| **Instructions** | **<General instructions about the question>** | | | | |
| **Question Text** | Match the following | | | | |
| **Data** | COLUMN A | COLUMN B |  |  |  |
| 1. Turner’s Syndrome | i. Sex Linked recessive |  |  |  |
| 2. Down Syndrome | ii. AA+XO |  |  |  |
| 3. | iii. |  |  |  |
| 4 | iv. |  |  |  |
|  | v |  |  |  |
| **Options** |  | **1** | **2** | **3** | **4** |
| A | v | iv | ii | i |
| B | i | ii | iiii | iv |
| C | iv | i | ii | iii |
| D | iii | v | i | ii |
|  |  |  |  |  |
| **Answers** | A | |  |  |  |
| **Solution** | A = | | | | |
| **Exams** | CBSE | | | | |
| **Concept Tips** | <external link> | | | | |
| **Taxonomy** | Conceptual | | | | |
| **Difficulty Level** | Easy | | | | |
| **PYQ** | JEE - 1999/JEE - 2004 | | | | |
| **Wow Factor** | Yes | | | | |
| **Quality Grade** | A | | | | |
| **Is Guided** | Yes | | | | |
| **Primary Concept** |  | | | | |
| **Secondary Concept** |  | | | | |
| **Remarks** |  | | | | |

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| **Topic** | **Biology** | | | | |
| **Question Serial No** | **7** | | | | |
| **Question Type** | **SCQ** | | | | |
| **Subtopic** | **Human Eye** | | | | |
| **Instructions** | **<General instructions about the question>** | | | | |
| **Question Text** | Match the following | | | | |
| **Data** | COLUMN A | COLUMN B |  |  |  |
| 1. Turner’s Syndrome | i. Sex Linked recessive |  |  |  |
| 2. Down Syndrome | ii. AA+XO |  |  |  |
| 3. | iii. |  |  |  |
| 4 | iv. |  |  |  |
|  | v |  |  |  |
| **Options** |  | **1** | **2** | **3** | **4** |
| A | v | iv | ii | i |
| B | i | ii | iiii | iv |
| C | iv | i | ii | iii |
| D | iii | v | i | ii |
|  |  |  |  |  |
| **Answers** | A | |  |  |  |
| **Solution** | A = | | | | |
| **Exams** | CBSE | | | | |
| **Concept Tips** | <external link> | | | | |
| **Taxonomy** | Conceptual | | | | |
| **Difficulty Level** | Easy | | | | |
| **PYQ** | JEE - 1999/JEE - 2004 | | | | |
| **Wow Factor** | Yes | | | | |
| **Quality Grade** | A | | | | |
| **Is Guided** | Yes | | | | |
| **Primary Concept** |  | | | | |
| **Secondary Concept** |  | | | | |
| **Remarks** |  | | | | |

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| **Topic** | **Biology** | |
| **Question Serial No** | **8** | |
| **Question Type** | **SCQ** | |
| **Subtopic** | **Human Eye** | |
| **Instructions** | **<General instructions about the question>** | |
| **Question Text** | The human eye is like a \_\_\_\_\_. | |
| **Options** | **A** | Retina |
| **B** | Cornea |
| **C** | Iris |
| **D** | Pupil |
|  |  |
|  |  |
| **Answers** | A | |
| **Solution** | The human eye is like a camera. Its lens system forms an image on a light-sensitive screen called the retina | |
| **Exams** | CBSE | |
| **Concept Tips** | <external link> | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE - 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** | text/pdf/video link | |
| **Secondary Concept** | text/pdf/video link | |
| **Remarks** |  | |

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| **Topic** | **Geography** | |
| **Question Serial No** | **9** | |
| **Question Type** |  | |
| **Subtopic** | **Atmosphere** | |
| **Instructions** | Directions (Q.1 to 2) Read the following passage to answer the given questions based on it. Some words/phrases are printed in bold to help you locate them while answering some of the questions. | |
| **Reference Question No** | 9, 10 | |
| **Comprehension** | One day Nandu rode his horse to the village fair. On his way back he met Somendra, the merchant. The merchant was a crafty man, ready to do anything to earn some money. The villages knew this. In fact no one knew what trick he would be up to next. Now, Nandu was poor and had no one in the world to call his own except a beautiful, white horse. He loved it more than anything else in the world. The merchant had his eye on the horse for a long time and tried to think of a way to get it for himself. Seeing Nandu, the merchant thought, Nandu is a simpleton. Let me see if I can trick him out of his horse. So he said to Nandu, You live all alone. How do you manage? What does a young boy like you need with a horse? Sell it to me and I shall make you rich in **return**. Nandu replied, "No I don’t want to sell my horse." | |
| **Question Text** | Cook settled in the continent of Australia because : | |
| **Options** | **A** | he had under taken the task of criminal reforms |
| **B** | he was upset with the apathy of the British Government |
| **C** | the British Government had not taken his suggestion seriously |
| **D** | he wanted to prove his claim of suitability of that part to live in |
|  |  |
| **Answers** | D | |
| **Solution** |  | |
| **Exams** | IIT | |
| **Concept Tips** | <external link> | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE - 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** | text/pdf/video link | |
| **Secondary Concept** | text/pdf/video link | |
| **Remarks** |  | |

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| **Topic** | **Geography** | |
| **Question Serial No** | **10** | |
| **Question Type** |  | |
| **Subtopic** | **Atmosphere** | |
| **Instructions** |  | |
| **Reference Question No** | 9, 10 | |
| **Comprehension** | One day Nandu rode his horse to the village fair. On his way back he met Somendra, the merchant. The merchant was a crafty man, ready to do anything to earn some money. The villages knew this. In fact, no one knew what trick he would be up to next. Now, Nandu was poor and had no one in the world to call his own except a beautiful, white horse. He loved it more than anything else in the world. The merchant had his eye on the horse for a long time and tried to think of a way to get it for himself. Seeing Nandu, the merchant thought, Nandu is a simpleton. Let me know if I can trick him out of his horse. So he said to Nandu, You live all alone. How do you manage? What does a young boy like you need with a horse? Sell it to me and I shall make you rich in **return**. Nandu replied, "No I don’t want to sell my horse." | |
| **Question Text** | James Cook found that: | |
| **Options** | **A** | the coastal areas of Australia were already overcrowded by the British |
| **B** | the coastal areas of Australia were suitable for the British to live |
| **C** | criminals and murderers were occupying the coastal areas of Australia |
| **D** | the coastal areas of Australia were unsuitable for others to settle |
| **E** | None of these |
| **Answers** | B | |
| **Solution** |  | |
| **Exams** | IIT | |
| **Concept Tips** | <external link> | |
| **Taxonomy** | Conceptual | |
| **Difficulty Level** | Easy | |
| **PYQ** | JEE - 1999/JEE - 2004 | |
| **Wow Factor** | Yes | |
| **Quality Grade** | A | |
| **Is Guided** | Yes | |
| **Primary Concept** | text/pdf/video link | |
| **Secondary Concept** | text/pdf/video link | |
| **Remarks** |  | |

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