

Questions	Unofficial Answers
<p>Q1. Select the correct option from the given choices:</p> <p>1) The major product formed in the following reaction is</p> <p>a) 1-butene b) 2-butanol c) 1-bromobutane d) 2-butene</p>	d) 2-butene
<p>2) The percentage of Helium filled in the tanks used by most scuba divers to dilute air in deep dives</p> <p>a) 32.1 b) 11.7 c) 74.2 d) 56.2</p>	b) 11.7
<p>3) The common oxidation state shown by the element with the atomic number 21 is</p> <p>a) +3 b) +4 c) +5 d) Both +3 and +5</p>	a) +3
<p>4) The main natural source of acetic acid is</p> <p>a) Milk b) Vinegar c) Red ant d) butter</p>	b) Vinegar
<p>5) Acetylation of salicylic acid produces a compound which has anti-inflammatory and antipyretic property. The compound is:</p> <p>a) Bakelite b) Acetic anhydride c) Formalin d) Aspirin</p>	d) Aspirin
<p>6) p-Hydroxyazobenzene is formed by the reaction of benzene diazonium chloride with phenol. It is:</p> <p>a) An electrophilic substitution reaction b) A nucleophilic substitution reaction c) A hydrogenation reaction d) A halogenation reaction</p>	a) An electrophilic substitution reaction
<p>7) Doctor advised a 50 year old woman enough exposure to sunlight and addition of fish and egg yolk to her diet. Name the vitamin deficiency for the possible disease diagnosed by the doctor,</p> <p>a) Vitamin D b) Vitamin A c) Vitamin C</p>	a) Vitamin D

d) Vitamin B12													
<p>Q8. Which of the following statement/s is /are incorrect about order and molecularity of a chemical reaction?</p> <p>I. The probability that more than three molecules can collide and react simultaneously is very small.</p> <p>II. There can be only three values for the order of the reaction, that is zero, first and second.</p> <p>III. The order depends on rate equation while molecularity does not.</p> <p>IV. There can be infinite number of values for order.</p> <p>a) I and IV b) III only c) II and IV d) II only</p>	d) II only												
<p>Q9. Which of the following groups when present at para position increases the basic strength of aniline?</p> <p>a) -NO₂ b) -Br c) -NH₂ d) -COOH</p>	c) -NH ₂												
<p>Q10. Among the following cells, the cell used in the Apollo space program for providing eclectic power is</p> <p>a) SHE b) H₂-O₂ fuel cell c) Daniel cell d) Mercury cell</p>	b) H ₂ -O ₂ fuel cell												
<p>Q11. Isopropyl magnesium bromide and n-propyl magnesium bromide react separately with H₂O to yield the organic compounds, respectively are</p> <p>a) Isopropyl bromide and n-propyl bromide b) Isopropyl alcohol and n-propyl alcohol c) n-propyl alcohol and Isopropyl alcohol d) Propane and propane</p>	d) Propane and propane												
<p>Q12. A binary solution has two components, A and B. The mole fraction of components 'A' is 0.5, then number of moles of components 'A' and 'B' in the solution is</p>	$n_A = n_B$												
<p>Q13. Match the following</p> <table border="0"> <tr> <td>List I (Elements)</td> <td>List II (Their maximum oxidation states)</td> </tr> <tr> <td>i) Thorium (Th)</td> <td>a) +7</td> </tr> <tr> <td>ii) Protactinium (Pa)</td> <td>b) +6</td> </tr> <tr> <td>iii) Lawrencium (Lr)</td> <td>c) +3</td> </tr> <tr> <td>iv) Uranium (U)</td> <td>d) +5</td> </tr> <tr> <td>v) Plutonium (Pu)</td> <td>e) +4</td> </tr> </table>	List I (Elements)	List II (Their maximum oxidation states)	i) Thorium (Th)	a) +7	ii) Protactinium (Pa)	b) +6	iii) Lawrencium (Lr)	c) +3	iv) Uranium (U)	d) +5	v) Plutonium (Pu)	e) +4	<p>I-e II-d III-a IV-b V-c</p>
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<p>Q14. The complex $[\text{Co}(\text{NH}_3)_5(\text{NO})_2]\text{Cl}_2$ is obtained in the red form when the nitrite ligand is bound through oxygen</p> <p>a) Orange b) Blue c) White d) Yellow</p>	<p>d) Yellow</p>
<p>Q15. Given below are two statements: Statement I- Alcohols are acidic in nature. The acidic character of alcohol is due to the polar nature of the O-H bond in it. Statement II- Alcohols are weaker acids than water. In light of the above statements, choose the most appropriate answer from the options given below:</p> <p>a. Statement I is incorrect but Statement II is correct b. Both Statement I and II are correct c. Both Statement I and II are incorrect d. Statement I is correct but Statement II is incorrect</p>	<p>b) Both Statement I and II are correct</p>
<p>II. Fill in the blanks</p> <p>Q16. Oxidation state of Ni in $[\text{Ni}(\text{CO})_4]$ is _____.</p> <p>Q17. In Williamson ether synthesis, an alkyl halide is allowed to react with _____.</p> <p>Q18. The carbohydrates which reduce Fehling's and Tollens' reagents are called as _____ sugars.</p> <p>Q19. The lower aldehydes have sharp _____ odour.</p> <p>Q20. Van't Hoff factor (i) for a non-electrolyte in a solution is _____.</p>	<p>Zero Sodium Alkoxide Reducing sugars Pungent One</p>