

### Q.1

Chemically aspirin is

*Max. score: 2; Neg. score: 0; Your score: 2*



Sodium Salicylate



Ethyl Salicylate



Methyl Salicylate



Acetyl salicylic acid

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### Q.2

Among the following, the correct statement(s) related to the iodometric titration that you have done is(are)

*Max. score: 2; Neg. score: 0; Your score: 2*



The chemical reaction releasing iodine is generally slow and should be kept in dark for few minutes to complete it



During the titration, starch indicator should be added only before the equivalence point



Molecular iodine is only slightly soluble in water and thus liberates out of the flask if kept for long



The chemical reaction releasing iodine proceeds quantitatively in slightly acidic solution.

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### Q.3

Caffeine is structurally similar to

*Max. score: 2; Neg. score: 0; Your score: 2*

☐ Thymine



Tannin



Adhenosine



Guanine

☐ Cytosine

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### Q.4

The role of Papain extract in DNA extraction is

*Max. score: 2; Neg. score: 0; Your score: 2*

☐ (a) It disrupts the cell membrane

☐ (d) Both (a) and (b)

☐ (b) It emulsifies the lipids present in the cell membrane

☒ (c) It denatures and degrades the proteins

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### Q.5

Caffeine belongs to the class of

*Max. score: 2; Neg. score: 0; Your score: 2*

☐ Steroids

☐ Terpenoids

☐ Carbohydrates

☒ Alkaloids

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### Q.6

Among the following, the correct statement(s) related to your experiment 'determination of the amount of calcium in milk powder by EDTA complexometry' is(are):

*Max. score: 2; Neg. score: 0; Your score: 0*



EDTA reacts first with free calcium and then to the Mg-indicator complex



Mg-EDTA complex is less stable than Ca-EDTA complex



Eriochrome black-T used is an acid-base indicator



Mg-indicator complex is more stable than Ca-indicator complex



The point at which the reaction (titration) complete is known as the equivalence point

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### Q.7

Aspirin on treatment with aq.  $\text{FeCl}_3$  solution gives

*Max. score: 2; Neg. score: 0; Your score: 2*



Purple colour Metal complex



Red Colour Metal complex



Deep Blue colour Metal complex



No colour Change

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### Q.8

Among the following, the correct statement(s) related to your experiment 'determination of the amount of calcium in milk powder by EDTA complexometry' is(are):

*Max. score: 2; Neg. score: 0; Your score: 2*

✓ ☒ You need to use a buffer solution containing ammonia and ammonium chloride in the experiment

✓ ☒

For an indicator to be useful in the experiment, it must bind metal less strongly than EDTA does

☐

Magenta and blue colours are formed due to free eriochrome black-T indicator and metal-indicator complex, respectively

✓ ☒

You can get the combined calcium and magnesium amount present in the milk powder

☐

You can get only the amount of calcium but not magnesium present in the milk

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### Q.9

The complementary base pairs in the DNA are

*Max. score: 2; Neg. score: 0; Your score: 2*

✓ ☒ Adenine-Thymine and Guanine-Cytosine

☐ Guanine-Thymine and Cytosine-Adenine

☐ Uracil-Thymine and Guanine-Cytosine

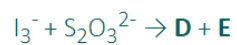
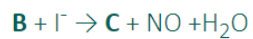
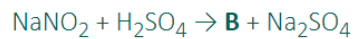
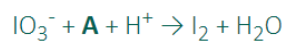
☐ Cytosine-Thymine and Guanine-Adenine

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**Q.10**

Some of the chemical reactions are shown below:



The **A**, **B**, **C**, **D** and **E** from the above equations are, respectively:

*Max. score: 2; Neg. score: 0; Your score: 2*

✓ ☒ **I<sup>-</sup>, HNO<sub>2</sub>, I<sub>2</sub>, I<sup>-</sup>, S<sub>4</sub>O<sub>6</sub><sup>2-</sup>**



**I<sup>-</sup>, HNO<sub>3</sub>, I<sub>2</sub>, I<sup>-</sup>, S<sub>4</sub>O<sub>6</sub><sup>2-</sup>**



**I<sup>-</sup>, HNO<sub>2</sub>, I<sub>2</sub>, I<sup>-</sup>, S<sub>4</sub>O<sub>6</sub><sup>-</sup>**



**I<sup>-</sup>, HNO<sub>3</sub>, I<sub>2</sub>, IO<sub>3</sub><sup>-</sup>, S<sub>4</sub>O<sub>6</sub><sup>-</sup>**

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