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1a Coenzymes are non protein components, required by enzymes for their optimum activity. They bind loosely to the enzyme and are organic in nature.

b Differences between fat soluble and water soluble vitamins.

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| Fat soluble vitamins | Water soluble vitamins |
| They are fat soluble | They are water soluble |
| Absorption requires bile salt | Their absorption is simple |
| Carrier proteins are present | No carrier proteins |
| They are stored in the liver | They are not stored |
| They are not excreted | They are excreted |
| Deficiency manifests only when stores are depleted | Deficiency manifests rapidly as this is not stored |

c Naicin exist in 2 forms: nicotinic acid and nicotinamide which are precursors of coenzymes nictotinamide adenine dinucleotide (NAD+) and nictotinamide adenine dinucleotide phosphate (NADP+). NAD+ and NADP+ are involved in various oxidation and reduction reactions catalyzed by dehydrogenase in metabolism. They are therefore involved in many metabolic pathways of carbohydrates, lipid and protein. Generally, NAD+ linked dehydrogenase catalyse oxidation -reduction reactions in oxidative pathways e.g citric acid cycle and glycolysis.