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Part - II  
Paper - IV

## Vit. B<sub>1</sub> (Thiamine)

The structure of Thiamine, which was first isolated in crystalline form by Jansen & Windaus in (1926), & was established by Williams & his co-workers in (1936)

Sources: It's chiefly found in outer layers of seeds of plants are especially rich in thiamine. Whole-wheat bread, therefore is an excellent source, where as ordinary white bread is a poor source of the vit. Besides also found in unrefined cereal grains, legumes, brewers yeast, liver, kidney, & lean cuts of pork. Excessive cooking leaches the water soluble thiamine from a many food stuffs.

Function: It's a constituent of the co-enzyme thiamine pyrophosphate (TPP) and is essential for carbohydrate metabolism.

Deficiency: Thiamine deficiency causes Beriberi which was first described by A. Kawasaka Takaki in (1887) among Japanese sailors. The disease is still an important public health problem in Philippines, Vietnam, Thailand, & Burma, where polished rice is a staple food. Beriberi affects predominantly the peripheral Nervous System, the Gastro-intestinal tract & the Cardiovascular System. There are two forms of the disease 'dry & wet' Beriberi. In the dry form there is rapid loss of weight & muscle wasting. Marked peripheral neuritis & muscular weakness result in the patient's becoming almost helpless. Deep reflexes are lost, sensory changes may occur and anxiety states & mental confusion are evident. In wet Beriberi there is a generalised oedema.