DT AND RAD

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BIOCHEMISTRY

ASSIGNMENT FOR VIVA

**( URIC ACID FORMATION )**

## ANSWER: Uric acid formation The formation of uric acid is through the enzyme xanthine oxidase, which oxidizes oxypurines. Normally a small amount of uric acid is present in the body, but when there is an excess amount in the blood, called hyperuricemia, this can lead to gout and formation of kidney stones.

 OR

An overproduction of uric acid occurs when **proteins are broken down into their byproducts**, purines being one, and an excess breakdown of the cells containing purines occurs. Uric acid, created from purine metabolism, dissolves in the blood and is excreted by the kidneys.

What is the purpose of uric acid in the body

Uric acid is a waste product created during the normal breakdown of purines, naturally occurring substances found in foods such as liver, mushrooms, **anchovies**, mackerel and dried beans according to the NIAMS. Uric acid is normally cleaned out of the blood by the kidneys, and passes out of the body along with urine.

URIC ACID STRUCTURE: Uric acid is a heterocyclic **compound** of carbon, nitrogen, oxygen, and hydrogen with the formula C5H4N4O3. It forms ions and salts known as urates and acid urates, such as ammonium acid urate. Uric acid is a product of the metabolic breakdown of purine nucleotides, and it is a normal component of urine.

**Chemical formula:**C5H4N4O3

**Heat capacity (C):**166.15 J K−1 mol−1 (at 24.0 ...

Why is uric acid important?

**Uric acid** is a useful diagnostic tool as screening for most of purine metabolic disorders. The **importance** of **uric acid** measurement in plasma and urine with respect of metabolic disorders is highlighted. Not only **gout** and renal stones are indications to send blood to the laboratory for **uric acid** examination.

**Symptoms uric acid**

**Gout** can affect the ankles, heels and toes. Also called "gouty arthritis," **gout** is a painful form of arthritis caused by too much **uric acid** in the body. The painful flare-ups may be concentrated in the big toe (a **symptom** known as podagra), as well as swelling and pain in the ankles, knees, feet, wrists or elbows.

**Symptoms:**Pain; Inflammation.

 **Treatment of uric acid**

Options include: Medications that block **uric acid** production. Drugs called xanthine oxidase inhibitors (XOIs), including allopurinol (Aloprim, Lopurin, Zyloprim) and febuxostat (Uloric), limit the amount of **uric acid** your body makes. This may lower your blood's **uric acid** level and reduce your risk of **gout**