**NAME: BELEMA SUCCESS**

**MATRIC NO: 18/MHS02/054**

**ASSIGNMENT TITLE: RENAL PHYSIOLOGY**

**QUESTION: WRITE SHORT NOTE ON CHARACTERISTICS AND COMPONENETS OF URINE**

Physical characteristics that can be applied to urine include color, turbidity (transparency), smell (odor), pH (acidity – alkalinity) and density. Many of these characteristics are notable and identifiable by by vision alone, but some require laboratory testing.

**Color**: Typically yellow-amber, but varies according to recent diet and the concentration of the urine. Drinking more water generally tends to reduce the concentration of urine, and therefore causes it to have a lighter color. Dark urine may indicate dehydration. Red urine indicates red blood cells within the urine, a sign of kidney damage and disease.

**Smell**: Fresh urine has light aromatic odor, If stored for some time, the odor becomes stronger due to bacterial decomposition. The smell of urine may provide health information. For example, urine of diabetics may have a sweet or fruity odor due to the presence of ketones (organic molecules of a particular structure) or glucose. Generally fresh urine has a mild smell but aged urine has a stronger odor similar to that of ammonia.

The pH of normal urine is generally in the range 4.6 – 8, with a typical average being around 6.0. Much of the variation occurs due to diet. For example, high protein diets result in more acidic urine, but vegetarian diets generally result in more alkaline urine (both within the typical range of 4.6 – 8).

**Density**: Density is also known as “specific gravity.” This is the ratio of the weight of a volume of a substance compared with the weight of the same volume of distilled water. The density of normal urine ranges from 0.001 to 0.035.

**Turbidity**: The turbidity of the urine sample is gauged subjectively and reported as clear, slightly cloudy, cloudy, opaque or flocculent. Normally, fresh urine is either clear or very slightly cloudy. Excess turbidity results from the presence of suspended particles in the urine, the cause of which can usually be determined by the results of the microscopic urine sediment examination. Common causes of abnormal turbidity include: increased cells, urinary tract infections or obstructions.

**Osmolarity**: 1,200 mOsm/L

**Volume**: 1,000 to 1,500 mL/day

The components of urine are: Water 96%, Urea 2%, Uric acid 2%, Creatinine 2%, Ammonia 2%, Sodium 2%, Potassium 2%, Chlorides 2%, Phosphate 2%, Sulphate 2%, Oxalates 2%.