THE HUMAN URINARY SYSTEM

URINE
♦ Urine consists of excess ________________, excess salt, urea and uric acid.

PARTS OF THE URINARY SYSTEM
♦ Renal Arteries – 2 renal arteries constantly transport blood to the ____________
♦ Kidneys – 2 kidneys composed of millions of nephrons constantly filter about 170 to
  200 litres of ________________ to produce about 1.5 to 2 litres of ____________
  daily.
♦ Renal Veins – 2 renal veins return useful nutrients back into the body circulation.
♦ Ureters – 2 ureters carry urine from the kidneys to the urinary ____________.
♦ Urinary Bladder – The urinary bladder temporarily stores urine until it is released from
  the body.
♦ Urethra – The urethra is the ____________ that carries urine from the urinary bladder
  to the outside of the body.

THE STRUCTURE OF THE KIDNEY
♦ There are 2 kidneys located on the ____________ wall of the abdominal cavity.
♦ Each kidney has 3 regions, the outer cortex, the middle medulla and the inner pelvis.
THE NEPHRON

♦ The nephron is the basic filtering unit of the _______________.
♦ There are over 1 million nephrons in each kidney.
♦ 2 important processes occur in the nephron – filtration and reabsorption.

Filtration

♦ Blood pressure of the Renal Artery forces blood plasma fluid to be filtered through the _______________ of the Glomerulus into Bowman’s Capsule.
♦ Blood _______________ and large proteins remain in the glomerulus.
♦ The filtrate which enters Bowman’s Capsule contains a large amount of water, salt, urea and uric acid to be excreted, but also useful nutrients that the body needs such as _______________. The filtrate does not contain blood cells nor large proteins.

Reabsorption

♦ As the filtrate containing both wastes and useful nutrients passes through the Convoluted Tubules and the Loop of Henle, the useful substances such as water and glucose are _______________ through the walls of the tubule back into the Renal Vein. Water is reabsorbed passively by osmosis. Glucose is reabsorbed by active ________.
♦ Desert animals need to reabsorb more water and therefore have a very long Loop of _______________ in each nephron. A cross-section of the kidney of a desert animal would show a thicker medulla where the Loop of Henle is situated.
♦ The urine formed then travels through the Collecting Tubule to the pelvis of the kidney and then to the _______________.

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