Assignment 1

Rancike Learning

Accounting:

Ans1 – A common solvency ratio utilized by both creditors and investors is the times interest earned ratio. Often referred to as the interest coverage ratio, the times interest earned ratio depicts a company's ability to cover the interest owed on debt obligations, expressed as income before interest and taxes divided by interest expense.

Times Interest Earned Ratio Formula

The times interest earned ratio is a company's earnings before interest and taxes divided by a company's interest payable on bond and debt obligations:

Ans 2 -she believes that he basis for truck is $ 17,500 is sue correct

Economics:

Ans 1 – Increase and real domestic output will decrease.

Ans 2- Sam promises you $500 next year, what is the present value?

To take a future payment backwards One year divide by 1.10

So $500 next year is $500 /1.10= $454.55 now (to nearest cent).

The present value is $454.55

Finance:

Ans 2-The premise of Behavioral is that conventional financial theory ignores how real people make decisions and that people make difference. A growing number of economists**.**

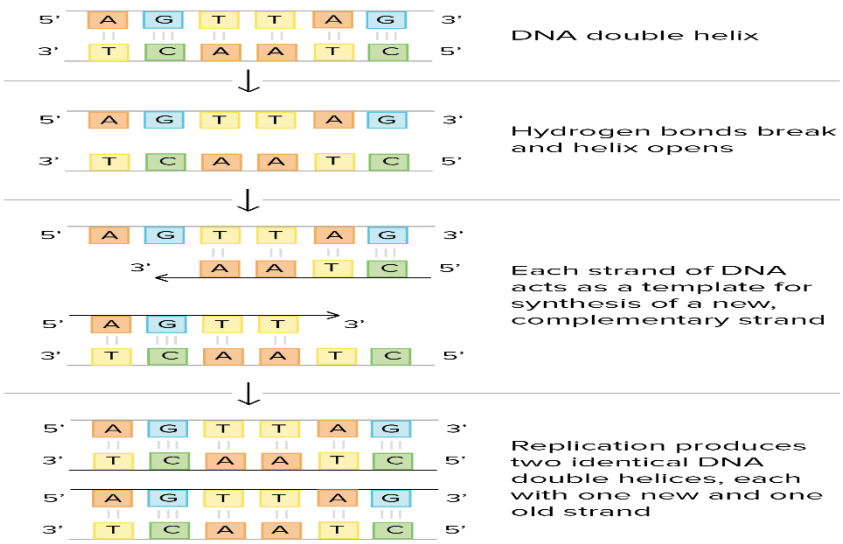
have come to interpret the anomalies literature as consistent with several "irrationalities" that seem to characterize individuals making complicated decisions. These irrationalities fall into two broad categories: first, that investors do not always process information correctly and therefore infer incorrect probability distributions about future rates of return; and second, that even given a probability distribution of returns, they

Biology:

Ans 1 :

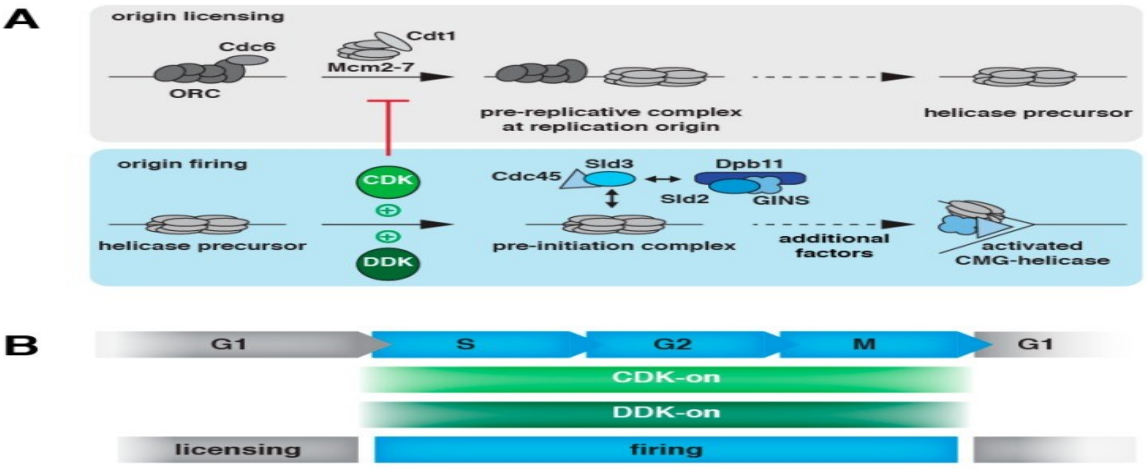
A

- DNA replication is **semiconservative**. Each strand in the double helix acts as a template for synthesis of a new, complementary strand.
- New DNA is made by enzymes called **DNA polymerases**, which require a template and a **primer** (starter) and synthesize DNA in the 5' to 3' direction.
- During DNA replication, one new strand (the **leading strand**) is made as a continuous piece. The other (the **lagging strand**) is made in small pieces.
- DNA replication requires other enzymes in addition to DNA polymerase, including **DNA primase**, **DNA helicase**, **DNA ligase**, and **topoisomerase**.



B

DNA replication, DNA replication initiation, cell cycle, post-translational protein modification, protein degradation, cell cycle transitions



Ans 2 - Antiseptics and disinfectants are extensively used in hospitals and other health care settings for a variety of topical and hard-surface applications. A wide variety of active chemical agents (biocides) are found in these products, many of which have been used for hundreds of years, including alcohols, phenols, iodine, and chlorine. Most of these active agents demonstrate broad-spectrum antimicrobial activity; however, little is known about the mode of action of these agents in comparison to antibiotics. This review considers what is known about the mode of action and spectrum of activity of antiseptics and disinfectants.

Chemistry

Ans 1 -The reaction is zero order. Hence, Rate of the reaction is equal to rate constant.

The reaction is,

$2NH_3 \rightarrow N_2 + 3H_2$

Therefore, $dtd[N_2] = 2.5 \times 10^{-4}$

$dtd[H_2] = 2.5 \times 10^{-4} \times 3 = 7.5 \times 10^{-4}$

Ans 2- Pericyclic reactions **occur if the symmetries of π orbitals in the reactants and products match**. These reactions are symmetry allowed. These reactions occur under relatively mild reaction conditions. A molecular orbital is symmetric if the signs on each side of the vertical plane are the same.

Physics:

Ans 1 -When you apply the brakes on your car, the kinetic energy of your vehicle is transformed into thermal energy in your brake disks. During a mountain descent, a 28.00-cm-diameter iron brake disk heats up from 30°C to 180°C. What is the diameter of the disk after it heats up?

Ans 2 -During a football game, a receiver has just caught a pass and is standing still. Before he can move, a tackler, running at a velocity of +4.2 m/s, grabs and holds onto him so that they move off together with a velocity of +2.3 m/s. If the mass of the tackler is 125 kg, determine the mass of the receiver in kilograms. Assume momentum is conserve.

Mechanical Engineering :

Ans1-The mass of the sphere shown in the figure is 3 kg, and it is carried by the parallelogram linkage . it is given the the spring connecting the linkage is not stretched when theta equals 90 degrees . from 90 degrees, the mechanism is released from rest. what is the velocity v of the sphere when theta is equal to 135 degrees ?assume that the mechanism we have is in the vertical plane, and the masses of everything other than the ball are very small and can be neglected

The correct answer is 1.143 m/s , but how could we do it ?