1) Bilirubin is the normal pigment found in bile, what is the skin color of a patient that have excesses of this pigment within cells and tissues:
   - Red
   - White
   - Yellow
   - Blue

2) coagulative necrosis can be found in all of these organs except:
   - brain*
   - liver
   - kidney
   - heart

3) what is the type of adaption the occur in mitotic cells:
   - Hypertrophy
   - Atrophy
   - Hyperplasia
   - Hyperplasia + Hypertrophy*

4) Under chorionic irritation stimuli what type of adaption response to chemical and physical changes:
   - Hypertrophy
   - Atrophy
   - Hyperplasia
   - Metaplasia*
   - Dysplasia
5) Which from next doesn’t cause mitochondrial damage:
   - ATP depletion
   - Reactive oxygen species
   - membrane damage
   - retention in cytochrome c*

6) which type of necrosis remain in intact shape:
   - Coagulative necrosis*
   - Liquefactive necrosis
   - Gangrenous necrosis
   - Caseous necrosis
   - Fat necrosis

7) All of the next are causes of hypercalcemia except:
   - Increased secretion of PTH
   - milk-alkali syndrome
   - Vitamin D–related disorders
   - Destruction of bone tissue
   - aortic stenosis*

8) most abundant necrosis type in the brain:
   - Gangrenous necrosis
   - Coagulative necrosis
   - Liquefactive necrosis*
   - Fat necrosis

9) viruses and normal cells use ........ to inhibit apoptosis:
   - type 1 TNF
   - Fas (CD95)
   - FLIP*
   - Apaf-1

10) The Intrinsic Pathway of Apoptosis is inhibited by .... protein:
    - Bcl-2 *
    - Bak
    - BH3
    - Bax
11) Sequence of events in the response of cells:
   - Clinical Manifestations
   - Pathogenesis
   - Etiology
   - Morphologic Changes

12) Protein degradation in cells, occurs by the ......proteasome pathway:
   - ubiquitin*
   - proteolytic
   - proteases
   - degradation

13) 4 year Girl broke her arm, after 6 weeks they remove the cast, they realize that her broken arm was smaller in size than her normal one what is the reason:
   - denervation atrophy
   - atrophy of disuse*
   - Pressure
   - Inadequate nutrition

14) Infection from which of the following is associated with hyperplasia:
   - Papillomavirus *
   - Enterobacteriac
   - Staphylococcid
   - Streptococcie
   - Hook worms

15) Which of the following in not considered an adaptive response:
   - Atrophy
   - Hyperplasia
   - Dysplasia *
   - Hypertrophy
   - Metaplasia

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Good Luck