

General Pathology Paper - Sample Short Answer Question

- a) From which cellular process does lipofuscin arise? (1 mark)

Autophagy

- b) What histochemically similar substance may be seen extracellularly in interstitial tissues or ingested by macrophages, and name two conditions/situations in which it may occur? (3 marks)

Ceroid.

Accept two of

vitamin E deficiency

cachexia from cancer

irradiation

inherited neuronal ceroid-lipofuscinosis

oxidative stress

- c) Name two histochemical stains that can stain both pigments in parts a) and b), and one histological method that could be employed to distinguish them. (3 marks)

Accept two of Sudan black, oil-red O, PAS, Ziehl-Neelsen (or others if confirmed by source material), distinguished by lectin biochemistry.

- d) Name two types of hematin, state what situations may result in each and the basic mechanism by which they form. (6 marks)

Acid hematin. Post mortem change resulting from unbuffered formalin reacting with haemoglobin when present in large amounts in a section, e.g. congested blood vessels.

Parasitic hematin. Forms when parasites that consume erythrocytes process haemoglobin into heme, then into heme dimers

- e) State 3 situations that may result in excessive accumulation of haemosiderin. (3 marks)

Accept any 3 of the following:

Increased rate of erythrocyte destruction

Excess iron in the diet

Hereditary haemochromatosis

Chronic passive congestion

Bruises