

EUROPEAN COLLEGE OF VETERINARY PATHOLOGISTS

GENERAL PATHOLOGY

Time frame: 4 hours (70 questions)

EXAMINATION NOTES – PLEASE READ CAREFULLY BEFORE STARTING THE EXAM!

**This section of the exam tests knowledge and understanding in
GENERAL PATHOLOGY by MULTIPLE CHOICE and SHORT ANSWER
questions.**

The format of the questions varies.

**For MULTIPLE CHOICE questions you are required to identify only ONE
statement. Questions are of 4 distinct formats:**

- 1. “CORRECT”: you are asked to identify the ONE CORRECT statement,**
- 2. “NOT CORRECT”: you are asked to identify ONE statement which is NOT
CORRECT,**
- 3. OPEN FORMAT: you are asked to select the ONE correct answer to the
question,**
- 4. SEQUENCE: you are asked to select the ONE correct sequence.**

**Please provide your answers by crossing (X) in the corresponding boxes
ONLY in the single coloured sheet provided with your exam. Return this sheet
and your answer booklet to the examiners at the end of the examination.**

**For SHORT ANSWER questions you may be asked to LIST features, to
DESCRIBE by a short piece of text, to MATCH between features or to FILL IN a
table... One cell to fill in a table indicates one answer unless specifically
otherwise mentioned.**

**For SHORT ANSWER questions provide your answers directly and ONLY in
the exam booklet.**

READ THE QUESTIONS CAREFULLY!

**ENTER YOUR CANDIDATE NUMBER ON EACH PAGE OF THE BOOKLET AND
IN THE SINGLE COLOURED ANSWER SHEET**

1. Regarding components of the extracellular matrix, which **ONE** of the following statements is **CORRECT**?

- ☐ A. Elastic fibers consist of a central core of fibrillin.
- ☐ B. Fibronectine is a small disulfide-linked homodimer.
- ☒ C. Laminin is the most abundant protein in basement membrane.
- ☐ D. Types I and V collagens are non-fibrillar.

Correct answer: C

Sources: Robbins, 9th edition, 2014, 23-24.

2. You are dealing with a necropsy case of an Arabian foal. The foal had severe lymphopenia and you diagnosed equine adenoviral infection and pneumocystosis. What is the underlying condition?

- ☐ A. Agammaglobulinemia
- ☐ B. Chédiak-Higashi Syndrome
- ☐ C. Leukocyte Adhesion Deficiency
- ☒ D. Severe Combined Immuno-Deficiency

Correct answer: D

Sources: McGavin, 4th edition, 2007, 240-242.

3. What is the **CORRECT** sequence of the following events in primary hemostasis?

1. Aggregation of platelets
2. Granule release of ADP and TxA₂ from platelets
3. Platelet adhesion
4. Shape change of platelets

- ☐ A. 1, 2, 3, 4
- ☐ B. 2, 3, 1, 4
- ☒ C. 3, 4, 2, 1
- ☐ D. 4, 3, 2, 1

Correct Answer: C (3, 4, 2, 1)

Source: Robbins, 9th edition, 2014, p117.

4. Regarding tumor suppressor genes and protein product, FILL in the table below.

FUNCTION OF THE TUMOR SUPPRESSOR PROTEIN	NAME OF THE TUMOR SUPPRESSOR GENE
Inhibits WNT signaling	<i>APC</i>
Inhibits PI3K/AKT signaling	<i>PTEN</i>
Inhibits Hedgehog signaling	<i>PTCH</i>
Inhibits RAS/MAPK signaling	<i>NF1</i>
Inhibits G ₁ /S transition during cell cycle progression	<i>RB</i>

Answers: 1 pt each

Source: Robbins, 9th edition, 2014, p291.

5. Regarding differentiation and anaplasia in cancers

A. Define differentiation.

B. Define anaplasia.

C. List three histological features of anaplastic tumors.

1.

2.

3.

Answer:

A. Define differentiation.

Differentiation refers to the extent to which neoplastic parenchymal cells resemble the corresponding normal parenchymal cells, both morphologically and functionally (1 point).

B. Define anaplasia.

Anaplasia is defined as the lack of differentiation (1 point).

C. List three histological features of anaplastic tumors.

1. *Pleomorphism (1 point)*
2. *Abnormal nuclear morphology (1 point)*
3. *Atypical and/or numerous mitoses (1 point)*
also accepted: loss of polarity, necrosis.

Source: Robbins, 9th edition, 2014, p268-270.