

**TASK AND BLUEPRINT LISTS AND CONTENT PERCENTAGES FOR CLINICAL PATHOLOGY
FROM THE 2016 JOB TASK ANALYSIS APPROVED BY COUNCIL**

TESTABLE

TASK 1: Identify, describe and interpret microscopic abnormalities in blood, bone marrow, body fluids, and tissues (cytology and histology) from domestic and non-domestic animals

- *Tested via glass slides and image-based multiple choice questions (MCQs)*
- *~30% of Phase II*

Skills and knowledge to:

- Write a coherent, organized descriptive report
- Write a concise summary relative to the descriptive findings
- Write an interpretive conclusion(s) and/or diagnosis(es)
- List appropriate disease(s), condition(s), and/or differential diagnoses
- List potential causes(s)
- Describe associated changes in other organ(s)
- Outline appropriate ancillary tests and anticipated results (e.g. special stains, immunohistochemistry, electron microscopy, PCR-based clonality, flow cytometry, cytology, other specialized laboratory tests in realms of biochemistry, serology, microbiology, immunodiagnostics)

TASK 2: Recognize and interpret static visual test results pertinent to veterinary clinical pathology

- Tested via image-based MCQs
- ~10% of Phase II

Skills and knowledge for interpretation of:

- Hematology cytograms
- Flow cytometry plots
- Coagulation tracings
- Platelet aggregation plots
- Macroscopic hematology test results (eg. Coombs tests)
- Gross appearance of submitted samples
- Special and immunochemical stains
- Electron micrographs
- Quality assurance and quality control data
- Protein electrophoretograms and immunofixation reactions
- PCR clonality results

TASK 3: Interpret and communicate clinicopathologic data from domestic and non-domestic animals

- Tested via case essays and MCQs
- ~30% of Phase II

Skills and knowledge to:

- Describe pathophysiology of conditions leading to laboratory abnormalities
- Integrate laboratory abnormalities into a diagnosis (or differential diagnoses)

- Recommend appropriate ancillary tests to further confirm definitive or differential diagnoses
- Interpret population laboratory data or study set data
- Interpret integrated laboratory results (biochemistry, urinalysis, serology, microbiology, serum protein electrophoresis, immunodiagnostics, coagulation, hematology, etc.)

TASK 4: Apply the principles of commonly used laboratory instrumentation and methods

- *Tested via non-image based MCQs*
- *~10% of Phase II*

Using knowledge to:

- Describe analyzer and test procedure methodologies
- List sample types and collection methods
- Describe procedures for reference interval determination
- List errors and interferences (pre-analytical, analytic and post-analytical)
- Define test properties (sensitivity, specificity, predictive values, ROC, etc.) and selection
- Describe quality control, quality assurance, relevant statistics
- Describe procedures for reference interval and method validation principles
- Describe routine, special and immunochemical stains
- Describe principles of light microscopy
- List the rules and regulations for laboratory safety and biosafety

TASK 5: Apply knowledge of the pathophysiology and diagnosis of disease, with emphasis on manifestation in laboratory test data

- *Tested via non-image based MCQs*
- *~20% of Phase II*

Using knowledge of pathogenesis, etiology and organ-based causes to answer questions concerning the following disease processes:

- Genetic alteration
- Disturbance of growth/neoplasia
- Cell aging/degeneration/injury/death
- Infection/immunity/inflammation
- Metabolic/nutritional/deficiency
- Hemodynamic/vascular disease

TASK 6 Demonstrate knowledge of the basic mechanisms of disease

- *Tested via non-image based MCQs*
- *100% of Phase I (See Phase I Topic Distribution below)*

Using knowledge of:

- Mechanisms fundamental to disease in animals, including principles of:
 - Cellular injury
 - Inflammation and repair

- Hemodynamic disorders
- Physical and chemical injury
- Neoplasia
- Congenital and genetic diseases
- Molecular pathology
- Infectious processes
- Immunology
- Mechanisms are general in nature in that they relate to most animal species

NON-TESTABLE TASKS

TASK 7 Compose and communicate interpretation and significance of results

- Write clinical pathology reports using training, experience, professional judgment and other information in order to convey the interpretation in a clear, concise, and accurate manner.
- Communicate the significance of clinical pathology results using clear, concise oral and written language in order to convey the potential implications for a subject, patient, or population (animal and/ or human).

TASK 8 Demonstrate proficiency in laboratory management and quality practices

- Define standard operating procedures in accordance with prescribed methods in order to ensure acceptable levels of quality and consistency.
- Evaluate specimens, reagents, instruments, and personnel training by inspection, review and documentation in order to ensure the validity of data.
- Evaluate data for evidence of pre-analytical and analytical error through inspection in order to determine if verification and troubleshooting are required to obtain reliable results.
- Demonstrate overall laboratory management aptitude

Phase II Blueprint Category Targets

Distribution by Species (Phase II)

S1 Domestic	70 – 85%
S2 Lab animal	10 – 15%
S3 Non-domestic	5 – 10%

Distribution by Organ system (Phase II)

O1 Hemolymphatic, including coagulation	20 – 25%
O2 Skin/Integument	6 – 12%
O3 Cardiovascular	2 – 4%
O4 Gastrointestinal	2 – 6%
O5 Pancreas, exocrine	2 – 6%
O6 Liver	12 – 15%
O7 Endocrine	8 – 12%

O8	Renal, including urinalysis and urinary tract	15 – 20%
O9	Respiratory	2 – 6%
O10	Nervous and special senses	2 – 4%
O11	Musculoskeletal	2 – 6%
O12	Reproductive	2 – 4%
O13	Multiorgan/Systemic/Other	2 – 6%
O14	Non-organ based*	10 – 20%

*Defined as mostly principles of laboratory technology, from selected items in Tasks 2 and 4.

Distribution by topic (Phase II)

C1	Genetic	5 – 10%
C2	Disturbance of growth/neoplasia	20 – 30%
C3	Cell aging/degeneration/injury/death	~5%
C4	Infection/immunity/inflammation	25 – 35%
C5	Metabolic/including endocrinopathy, acid base, abnormal biochemistry	10 – 15%
C6	Hemodynamic/vascular disease	~5%
C7	Laboratory technology/analysis	15 – 20%

Phase I (General Pathology Blueprint)

Distribution by topic (Phase I Examination targets, same for both Anatomical and Clinical Pathology)

C1	Genetic	5 – 10%
C2	Disturbance of growth/neoplasia	15 – 25%
C3	Cell aging/degeneration/injury/death	5 – 15%
C4	Infection/immunity/inflammation	35 – 55%
C5	Metabolic/nutritional/deficiency	5 – 10%
C6	Hemodynamic/vascular disease	5 – 10%
C7	Laboratory technology/analysis	3 – 5%