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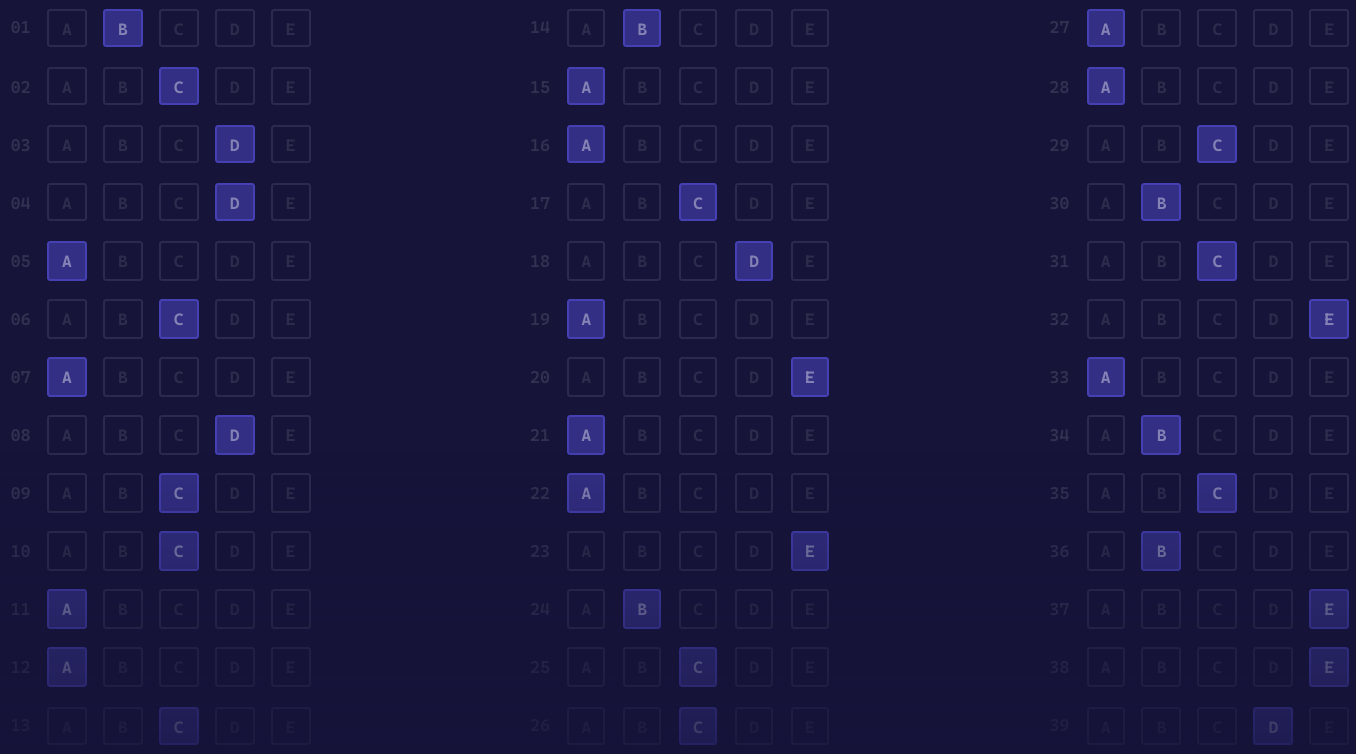

PRACTICE QUESTIONS

Canadian Alliance of Medical Laboratory Professionals Regulators (CAMLPR)

CGY

Cytology (Gynecological and Nongynecological)

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

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Before you begin

What this is

9 practice questions for Canadian Alliance of Medical Laboratory Professionals Regulators (CAMLPR) `CGY`, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, `CGY`
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

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QUESTION 1 SINGLE CHOICE

According to the Bethesda System (2014) for Reporting Cervical Cytology, which specimen adequacy category applies when an adequate number of well-preserved squamous cells are present but no endocervical/transformation zone component is identified in a conventional smear from a patient of any age?

A Unsatisfactory for evaluation

B Satisfactory for evaluation; no endocervical/transformation zone component seen

C Satisfactory for evaluation with an endocervical/transformation zone component present

D Satisfactory for evaluation but limited by obscuring factors

ANSWER B

WHY Under the 2014 Bethesda System, specimen adequacy is reported in two parts: (1) whether the specimen is satisfactory or unsatisfactory, and (2) whether an endocervical/transformation zone (EC/TZ) component is present, absent, or cannot be determined. A specimen with adequate squamous cellularity but no EC/TZ component is classified as 'Satisfactory for evaluation; no endocervical/transformation zone component seen.' The lack of an EC/TZ component does not, by itself, make the specimen unsatisfactory.

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QUESTION 2 SINGLE CHOICE

A Pap test shows squamous cells with nuclear enlargement (3–5 times the area of a normal intermediate cell nucleus), a slightly increased N/C ratio, mild hyperchromasia, and coarse chromatin without atypia suggestive of high-grade disease. Which Bethesda interpretation category is most appropriate?

A **Atypical squamous cells of undetermined significance (ASC-US)**

B Atypical squamous cells, cannot exclude HSIL (ASC-H)

C Low-grade squamous intraepithelial lesion (LSIL)

D High-grade squamous intraepithelial lesion (HSIL)

ANSWER **A**

WHY ASC-US is defined as squamous cells with nuclear enlargement approximately 2.5–3 times that of a normal intermediate nucleus, a slightly increased N/C ratio, and mild hyperchromasia — changes that fall short of LSIL. ASC-H is reserved for cells showing features that quantitatively or qualitatively cannot exclude HSIL. LSIL demonstrates mature, superficial/intermediate-type cells with enlarged hyperchromatic nuclei and koilocytosis, while HSIL shows smaller, immature cells with a markedly increased N/C ratio and coarse/irregular chromatin.

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QUESTION 3 SINGLE CHOICE

For conventional (smear) gynecologic cytology preparations, what is the recommended immediate fixation method to minimize air-drying artifact?

A Allow the smear to air-dry for 30 seconds, then spray fix

B Immediately immerse or spray the smear with 95% ethanol or equivalent spray fixative before drying occurs

C Fix in 10% neutral buffered formalin for 5 minutes

D Heat-fix the slide by passing it through a Bunsen burner flame three times

ANSWER B

WHY Conventional Pap smears must be wet-fixed immediately after smearing, using 95% ethanol immersion or a spray fixative that contains polyethyleneglycol or alcohol, to prevent air-drying artifacts (nuclear enlargement, smudgy chromatin, and obliteration of nuclear detail). Formal in fixation and heat fixation are not appropriate for gynecologic cytology smears, and air-drying—even briefly—introduces artifacts that can mimic or obscure squamous epithelial abnormalities.

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QUESTION 4 SINGLE CHOICE

On a routine Papanicolaou-stained sputum specimen, a cluster of three-dimensional cells with eccentric nuclei, prominent nucleoli, and finely vacuolated cytoplasm is seen. These findings are most consistent with which entity?

A Squamous cell carcinoma

B Small cell carcinoma

C Pulmonary adenocarcinoma

D Reactive bronchial epithelial cells

ANSWER C

WHY Three-dimensional clusters with eccentric nuclei, prominent nucleoli, and finely vacuolated cytoplasm are characteristic cytomorphologic features of pulmonary adenocarcinoma on exfoliative respiratory cytology. Squamous cell carcinoma typically shows keratinization and dense orangeophilic cytoplasm with pyknotic or irregular nuclei; small cell carcinoma shows small cells with scant cytoplasm, nuclear molding, and 'salt-and-pepper' chromatin; and reactive bronchial epithelial cells maintain a more uniform architecture with preserved honeycomb arrangements and cilia.

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QUESTION 5 SINGLE CHOICE

Which cytomorphologic feature is most useful in distinguishing reactive mesothelial cells from metastatic adenocarcinoma in a pleural fluid specimen?

A Uniform cell size with low N/C ratios in reactive mesothelium

B Presence of intercellular 'windows' and two-tone cytoplasm in reactive mesothelium

C **Three-dimensional morulae and macronucleoli in adenocarcinoma**

D Single-cell pattern with cytoplasmic vacuolation in reactive mesothelium

ANSWER C

WHY Three-dimensional cell clusters (morulae, cell balls) and prominent macronucleoli are features that strongly favor adenocarcinoma over reactive mesothelial proliferations in effusion cytology. Intercellular 'windows' (gaps between adjacent cells), two-tone or dense peripheral cytoplasm, and relatively low N/C ratios are characteristic of reactive mesothelium. While cytoplasmic vacuolation and single-cell patterns can be seen in either, the architectural pattern of three-dimensional clusters combined with macronucleoli is the more discriminating feature.

QUESTION 6 SINGLE CHOICE

According to The Bethesda System for Reporting Thyroid Cytopathology (TBSRTC), a thyroid FNA interpreted as 'Follicular neoplasm or suspicious for a follicular neoplasm' corresponds to which diagnostic category?

A Category III

B **Category IV**

C Category V

D Category VI

ANSWER B

WHY The Bethesda System for Reporting Thyroid Cytopathology (TBSRTC) has six categories: I — Nondiagnostic/Unsatisfactory; II — Benign; III — Atypia of undetermined significance/Follicular lesion of undetermined significance (AUS/FLUS); IV — Follicular neoplasm or suspicious for follicular neoplasm (FN/SFN); V — Suspicious for malignancy; VI — Malignant. Therefore, 'Follicular neoplasm or suspicious for a follicular neoplasm' corresponds to Category IV, typically managed by surgical lobectomy.

QUESTION 7 SINGLE CHOICE

In current cervical cancer screening guidelines, 'co-testing' refers to which combination of tests performed on the same cervical specimen?

A Liquid-based cytology alone

B Primary high-risk HPV testing alone

C **Liquid-based cytology combined with high-risk HPV testing**

D HPV genotyping with p16/Ki-67 dual staining

ANSWER C

WHY Co-testing denotes the simultaneous performance of cervical cytology (liquid-based preparation) and high-risk HPV DNA testing on the same specimen. It is endorsed in major screening guidelines (e.g., American Society for Colposcopy and Cervical Pathology and Canadian screening programs) as an option for average-risk screening, with a recommended screening interval of 5 years when both results are negative. Primary HPV testing refers to HPV testing alone as the initial screening modality, and p16/Ki-67 dual staining is a triage rather than a primary screening test.

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QUESTION 8 SINGLE CHOICE

Which of the following best describes the principal quality-assurance benefit of rescreening a defined percentage of negative Pap tests?

A It eliminates the need for cytotechnologist screening of subsequent specimens

B It provides a mechanism to detect screening false-negatives and monitor individual and laboratory performance

C It satisfies the requirement that all abnormal cases be confirmed by a pathologist

D It ensures compliance with the Bethesda System 2014 terminology

ANSWER B

WHY Rescreening of negative Pap tests (often a defined proportion, such as 10% of negatives, plus targeted high-risk cases) is a key quality-assurance component that identifies previously missed abnormal cases and provides ongoing data for assessing individual and laboratory screening sensitivity, false-negative rates, and workload patterns. It does not replace cytotechnologist screening, does not substitute for pathologist confirmation of abnormal cases, and does not enforce terminology compliance—those are separate QA/QC elements.

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QUESTION 9 MULTIPLE CHOICE

Which of the following cytomorphologic features support a diagnosis of high-grade urothelial carcinoma on voided urine cytology? (Choose two.)

A **Markedly increased N/C ratio (≥0.7)**

B **Coarse/clumped hyperchromatic chromatin with irregular nuclear membranes**

C Uniform monolayered sheets with bland nuclear features

D Papillary fibrovascular cores with attached cells showing mild atypia only

ANSWER **A** · **B**

WHY High-grade urothelial carcinoma (HGUC) is characterized by a markedly increased N/C ratio (commonly ≥0.7), coarse or clumped hyperchromatic chromatin, irregular nuclear membranes, and prominent nucleoli. Uniform monolayered sheets with bland nuclei suggest a benign urothelial process, and papillary fibrovascular cores with only mild atypia correspond to low-grade papillary urothelial neoplasia. Recognizing HGUC criteria is critical because cytology has high specificity (and high positive predictive value) for HGUC, even though sensitivity for low-grade lesions is limited.

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