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37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

American Board of Imaging Informatics (ABII)

DLT

California Limited Permit Dental Laboratory Radiography
Examination

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for American Board of Imaging Informatics (ABII) DLT , 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, DLT
- the question number
- the email address on your order

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

QUESTION 1

SINGLE CHOICE

According to California radiation safety regulations, what is the maximum diameter of the useful X-ray beam measured at the patient's skin for a dental intraoral radiograph?

- ☐ A 2.0 inches (5.0 cm)
- ☒ B 2.75 inches (7.0 cm)
- ☐ C 3.0 inches (7.5 cm)
- ☐ D 3.25 inches (8.25 cm)

ANSWER B

WHY Both federal standards and California regulations specify that the collimated useful beam for intraoral dental radiography must not exceed 2.75 inches (7 cm) in diameter at the patient's skin, reducing unnecessary patient radiation exposure.

QUESTION 2

SINGLE CHOICE

Which of the following cells or tissues commonly found in the oral/facial region is considered the most radiosensitive?

- ☐ A Mature bone and cartilage
- ☐ B Salivary gland tissue
- ☒ C Small lymphocytes
- ☐ D Nerve and muscle tissue

ANSWER C

WHY Small lymphocytes are highly sensitive to ionizing radiation. According to the Law of Bergonie and Tribondeau, cells that divide rapidly, have a long mitotic history, and are undifferentiated are the most radiosensitive.

QUESTION 3

SINGLE CHOICE

In the paralleling technique (extension cone paralleling), why is a longer target-receptor distance (typically 16 inches) preferred over a shorter distance (8 inches)?

- ☐ A To increase magnification of the image.
- ☒ B To reduce image magnification and minimize divergence of the X-ray beam.
- ☐ C To allow the use of a larger collimator.
- ☐ D To increase the exposure time for better contrast.

ANSWER B

WHY A longer target-receptor distance (using a 16-inch position-indicating device, or PID) is used in the paralleling technique to ensure the X-rays are more parallel when striking the receptor, which reduces image magnification and geometric distortion.

QUESTION 4

SINGLE CHOICE

Which of the following anatomical structures appears radiolucent on a dental intraoral radiograph?

- ☐ A Enamel
- ☒ B Mental foramen
- ☐ C Genial tubercles
- ☐ D Lamina dura

ANSWER B

WHY The mental foramen is a opening/hole in the mandible bone that allows nerves and blood vessels to pass. Because it contains less dense tissue than surrounding bone, it allows more X-rays to pass through to the receptor, appearing dark or radiolucent on a radiograph.

QUESTION 5

SINGLE CHOICE

What is the Maximum Permissible Dose (MPD) of whole-body radiation per year for an occupationally exposed worker, such as a dental radiographer?

- ☐ A 5.0 mSv (0.5 rem)
- ☒ B 50 mSv (5.0 rem)
- ☐ C 100 mSv (10 rem)
- ☐ D 500 mSv (50 rem)

ANSWER B

WHY The Maximum Permissible Dose (MPD) for occupationally exposed radiation workers is 50 mSv (5.0 rem or 0.05 Sv) per calendar year, as defined by NCRP recommendations and California state guidelines.

QUESTION 6

SINGLE CHOICE

If a dental radiographer increases the kilovoltage peak (kVp) while keeping other exposure settings constant, what is the primary effect on the resulting image?

- ☐ A High contrast (short-scale contrast) with fewer shades of gray
- ☒ B Low contrast (long-scale contrast) with many shades of gray
- ☐ C Increased magnification of the image
- ☐ D Decreased overall density (lighter image)

ANSWER B

WHY An increase in kVp increases the energy and penetrating power of the X-rays, which produces an image with lower contrast (long-scale contrast), showing many shades of gray. This is useful for evaluating bone loss and periodontal changes.

QUESTION 7 SINGLE CHOICE

A processed dental radiograph appears unusually light (insufficient density). Which of the following processing errors is the most likely cause?

- ☐ A Developer solution was too warm.
- ☐ B Film was overexposed to radiation.
- ☒ C Developer solution was exhausted or cold.
- ☐ D Film was accidentally exposed to safe light for too long.

ANSWER C

WHY An underdeveloped film results in a light image. Common causes of underdevelopment include cold developer solution, insufficient development time, or exhausted developer chemicals.

QUESTION 8 SINGLE CHOICE

If no protective barrier is available, what is the minimum distance and correct angle the dental operator should stand relative to the primary beam during an exposure?

- ☐ A At least 3 feet away, at a 45-degree angle
- ☒ B At least 6 feet away, at a 90- to 135-degree angle
- ☐ C At least 8 feet away, directly behind the patient's head
- ☐ D At least 10 feet away, directly in the path of the primary beam

ANSWER B

WHY To avoid secondary radiation, if no wall shield is available, the operator must stand at least 6 feet away from the patient/X-ray source and at an angle between 90 and 135 degrees relative to the primary X-ray beam.

QUESTION 9

MULTIPLE CHOICE

Which of the following methods are commonly used to monitor and evaluate the quality of the darkroom safelight and the strength of processing solutions in a dental office? (Choose two.)

- ☒ **A** The coin test
- ☒ **B** The stepwedge test
- ☐ **C** The thermoluminescent dosimeter (TLD) test
- ☐ **D** The grid alignment test

ANSWER **A • B**

WHY The coin test is a standard darkroom quality control test used to check for safelight leaks. The stepwedge test (or a reference radiograph) is used to monitor developer solution strength and image density consistency day-to-day. TLDs monitor personal dose, and grids are not typical for intraoral dental imaging.