



# ARDMS SPI Free Dump Download & VCE SPI Dumps

**ARDMS SPI Exam  
Prep 2025**  
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## ARDMS SPI Exam Syllabus Topics:

Topic	Details
Topic 1	<ul style="list-style-type: none"> <li>Optimize Sonographic Images: This section of the exam measures skills of Diagnostic Medical Sonographers and assesses their ability to enhance image quality using advanced optimization techniques. It includes understanding axial, lateral, elevational, and temporal resolution, as well as manipulating gain, depth, magnification, and dynamic range. Examinees are expected to apply harmonic imaging, spatial compounding, and gray-scale techniques to produce clear, accurate diagnostic images.</li> </ul>
Topic 2	<ul style="list-style-type: none"> <li>Provide Clinical Safety and Quality Assurance: This section of the exam measures skills of Clinical Ultrasound Supervisors and focuses on maintaining safety and quality standards in ultrasound practice. It includes infection control protocols, transducer and machine integrity checks, and quality assurance testing using tissue-mimicking phantoms. The section also requires familiarity with statistical parameters like sensitivity and specificity to evaluate diagnostic performance and ensure consistent, reliable imaging outcomes.</li> </ul>
Topic 3	<ul style="list-style-type: none"> <li>Perform Ultrasound Examinations: This section of the exam measures skills of Sonographers and covers how to conduct ultrasound procedures while ensuring patient safety and diagnostic accuracy. It includes understanding of imaging protocols, ergonomics, patient care, and the interaction between sound and tissue. Candidates are expected to demonstrate abilities to manage patient encounters, apply 3D and 4D and contrast imaging concepts, identify and correct artifacts, and follow confidentiality and privacy standards throughout the scanning process.</li> </ul>
Topic 4	<ul style="list-style-type: none"> <li>Manage Ultrasound Transducers: This section of the exam measures skills of Ultrasound Technicians and focuses on the management and proper use of different types of transducers. It evaluates knowledge of transducer components, frequency selection, and application of various 2D, 3D, 4D, and nonimaging transducer concepts. Candidates must show they can choose the appropriate transducer for specific examinations and make necessary frequency adjustments to ensure image quality.</li> </ul>

Topic 5	<ul style="list-style-type: none"><li>• Apply Doppler Concepts: This section of the exam measures skills of Vascular Sonographers and evaluates understanding and application of Doppler ultrasound principles. It includes knowledge of Doppler angle, flow dynamics, and color and spectral Doppler imaging. The section also covers eliminating aliasing, interpreting waveforms, applying continuous and pulsed wave Doppler, and optimizing Doppler gain and scale to accurately measure blood flow and velocity within vessels.</li></ul>
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### ARDMS Sonography Principles and Instrumentation Sample Questions (Q165-Q170):

#### NEW QUESTION # 165

Which system control adjusts amplification of signals as a function of depth?

- A. Transmit focus
- B. Time gain compensation
- C. Reject
- D. Output power

**Answer: B**

Explanation:

Time Gain Compensation (TGC), also known as Depth Gain Compensation (DGC), is used to adjust the amplification of ultrasound signals based on their depth. As ultrasound waves travel deeper into the tissue, they become weaker due to attenuation. TGC compensates for this attenuation by progressively increasing the gain for deeper echoes, ensuring that structures at different depths appear with similar brightness on the ultrasound image. This function is critical for creating a uniform image and accurately visualizing deeper anatomical structures.

American Registry for Diagnostic Medical Sonography (ARDMS). Sonography Principles and Instrumentation (SPI) Examination Review Guide.

#### NEW QUESTION # 166

Which situation can cause color Doppler noise to overwrite an anechoic or hypoechoic area?

- A. Color priority set too low
- B. Color pulse repetition frequency (PRF) set too high
- C. Color packet size set too low
- D. Color gain set too high

**Answer: D**

Explanation:

Comprehensive and Detailed Explanation From Exact Extract:

When color Doppler gain is set too high, the system amplifies noise signals, leading to random color speckles appearing within anechoic or hypoechoic areas where no true flow exists. This artifact is known as "color bleeding" or "color noise." According to sonography instrumentation reference:

"Excessive color Doppler gain can cause noise to overwrite areas without flow, resulting in false color signals within fluid-filled or hypoechoic structures." Therefore, the correct answer is D: Color gain set too high.

### NEW QUESTION # 167

Which adjustment can maintain the same frame rate when the depth is increased?

- A. Increase frequency
- B. Increase number of focal zones
- C. Decrease image width
- D. Decrease persistence

**Answer: C**

Explanation:

When the depth of imaging is increased, the time it takes for the ultrasound pulses to travel to and from the deeper structures also increases, which can reduce the frame rate. To maintain the same frame rate, one effective adjustment is to decrease the image width. Narrowing the image width reduces the number of scan lines required to create each frame, allowing the system to maintain a higher frame rate despite the increased depth.

Reference:

ARDMS Sonography Principles and Instrumentation guidelines

Krenkau, F. W. (2015). Diagnostic Ultrasound: Principles and Instruments.

### NEW QUESTION # 168

What is the most effective way to reduce aliasing on color Doppler?

- A. Increase wall filter
- B. Decrease pulse repetition frequency (PRF)
- C. Decrease wall filter
- D. Increase pulse repetition frequency (PRF)

**Answer: D**

Explanation:

Aliasing in color Doppler occurs when the velocity of blood flow exceeds the Nyquist limit, which is half the PRF. To reduce aliasing, the PRF must be increased. This raises the Nyquist limit, allowing higher velocities to be measured without wrapping around the baseline. Increasing PRF reduces the occurrence of aliasing artifacts by expanding the range of detectable velocities before aliasing occurs.

Reference:

ARDMS Sonography Principles & Instrumentation Guidelines

Krenkau FW. Sonography Principles and Instruments. 9th ed. Philadelphia, PA: Elsevier; 2016.

### NEW QUESTION # 169

Which setting improves temporal resolution?

- A. Wide sector size
- B. Multiple focal zones
- C. Increased depth
- D. Low line density

**Answer: D**

Explanation:

Comprehensive and Detailed Explanation From Exact Extract:

Temporal resolution reflects how quickly frames are updated (frame rate). Reducing the number of scan lines per frame (low line density) decreases acquisition time, thus increasing frame rate and improving temporal resolution.

According to sonography instrumentation reference:

"Lower line density allows for faster frame rates, improving temporal resolution at the expense of spatial resolution." Therefore, the correct answer is D: Low line density.

### NEW QUESTION # 170

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