



Certified Extended Reality Engineer (CXRE)

Ten Sample Questions

These ten questions are written at the difficulty of the live exam. Six carry a figure, a data table, a configuration or a code listing; four are plain scenario questions, as on the live paper. Every one is a scenario a working extended reality engineer would meet, and none of them appears in the live question bank.

The live exam is multistage adaptive: how you score on one stage selects the difficulty of the next, so no two candidates sit the same paper. It is a performance-based exam: each form can carry up to 5 to 12 performance-based questions alongside the multiple-choice questions, which means you build, sequence or complete something rather than only choosing from a list. Answers and full explanations follow each question here; the live exam does not disclose item-level answers.

Question 1

Domain 1: Extended Reality Foundations

DATA

Sarah Miller maps each XR mode to a short description, with one description missing.

Mode	Description
AR	Overlays on the real view
MR	(to choose)
VR	Fully immersive world
Passthrough	Shows real via cameras

Table 1.1 XR modes and meaning.

Which description fits mixed reality?

- ☐ A Fully blocks reality
- ☐ B Only 2D overlays
- ☐ C Blends both worlds
- ☐ D Audio guidance only

Correct answer: C

Mixed reality blends virtual and real content so that anchored objects react to the physical space around the user. It does not fully block the world like VR, and it is more than a flat overlay or an audio cue.

Question 2

Domain 2: 3D Graphics and Rendering

CONFIG

James Carter lists the ordered stages of the rendering pipeline, with the last stage missing.

- 1 vertex shading
- 2 rasterize
- 3 fragment shading
- 4 (to choose)

Listing 2.1 The rendering stages.

Which stage completes the pipeline?

- ☐ A Recompile the source
- ☐ B Blend and output
- ☐ C Load the mesh
- ☐ D Parse the scene

Correct answer: B

The output merge stage runs the depth test and blends fragments into the final framebuffer, so it blends and outputs the pixels. Loading a mesh, parsing the scene, or recompiling the source happen before shading, not at the end.

Question 3

Domain 3: Interaction and Input

DATA

Emma Wilson maps each input to the action it triggers, with one action missing.

Input	Action
Trigger pull	Select an object
Hand pinch	(to choose)
Gaze dwell	Hover to select
Voice command	Issue a command

Table 3.1 Inputs and actions.

What does a hand pinch map to?

- ☐ A Grab or select
- ☐ B Reboot the headset
- ☐ C Mute all audio
- ☐ D Open the settings

Correct answer: A

A pinch of the thumb and finger is the common hand-tracking gesture for grabbing or selecting the targeted object. It is not tied to rebooting the device, muting audio, or opening settings, which need explicit controls.

Question 4

Domain 4: XR Development and Engines

CONFIG

David Brown lists the nodes in the scene graph for a small AR project.

```
root
  camera rig
  hand tracker
  world anchor
```

Listing 4.1 The scene graph nodes.

Which node keeps virtual content fixed to a real place?

- ☐ A Camera rig
- ☐ B Hand tracker
- ☐ C Post processor
- ☐ D World anchor

Correct answer: D

A world anchor pins virtual content to a mapped point in the physical space so it stays put as the user moves. The camera rig follows the head, the hand tracker reads gestures, and a post processor only affects final image effects.

Question 5

Domain 5: Performance and Optimization

DATA

Olivia Davis maps each refresh rate to its per-frame budget, with one value missing.

Refresh	Frame budget
90 Hz	11.1 ms
72 Hz	(to choose)
120 Hz	8.3 ms
60 Hz	16.7 ms

Table 5.1 Refresh and frame budget.

What is the budget at 72 Hz?

- ☐ A About 33 ms
- ☐ B About 13.9 ms
- ☐ C About 5 ms
- ☐ D No fixed limit

Correct answer: B

The frame budget is one second divided by the refresh rate, so 72 Hz gives roughly 13.9 ms per frame. Missing that budget drops frames and breaks the sense of presence, so the render must stay within it.

Question 6

Domain 6: User Experience, Comfort and Deployment

CONFIG

Liam Anderson lists the comfort options offered in a VR travel experience.

```
locomotion    teleport
turning       snap
vignette      on
framerate     locked
```

Listing 6.1 Comfort options.

Which option most reduces sickness from peripheral motion?

- ☐ A Raise brightness
- ☐ B Bigger UI text
- ☐ C Edge vignette
- ☐ D Louder audio

Correct answer: C

An edge vignette narrows the field of view during movement, which cuts the peripheral optic flow that drives motion sickness. Brighter screens, larger text, or louder audio do not address the conflicting motion signal.

Question 7

Domain 5: Performance and Optimization

Tracking is solid but the render sometimes runs late, so users see judder and the world seems to swim. The team wants to keep motion smooth without rendering a full new frame. What best helps?

- ☐ A Add more polygons
- ☐ B Lower the refresh
- ☐ C Disable tracking
- ☐ D Use reprojection

Correct answer: D

Reprojection warps the last rendered frame to the newest head pose, holding motion smooth when a frame arrives late. Adding polygons raises the load, lowering the refresh worsens presence, and disabling tracking removes the pose the display depends on.

Question 8

Domain 3: Interaction and Input

Users point a laser ray at small distant buttons, but hand jitter makes the ray miss and selection feels unreliable. What is the best fix?

- ☐ A Grow hit targets
- ☐ B Shrink the buttons
- ☐ C Remove all menus

- ☐ D Hide the pointer

Correct answer: A

Enlarging the interactive hit targets, or snapping the ray to the nearest one, absorbs small hand jitter so selection lands reliably. Shrinking buttons makes aiming harder, and removing menus or hiding the pointer takes away the interaction itself.

Question 9 Domain 6: User Experience, Comfort and Deployment

A heads-up panel sits a few centimetres from the eyes, and testers report eye strain and blurred text after a short session. What placement helps most?

- ☐ A Attach text to eyes
- ☐ B Place UI far away
- ☐ C Set UI near 2 m
- ☐ D Use tiny fonts

Correct answer: C

Placing the panel around two metres away eases the vergence and accommodation conflict that causes eye strain up close. Content pinned to the eyes stays too near, extreme distance hurts readability, and tiny fonts make the strain worse.

Question 10 Domain 4: XR Development and Engines

An XR app must run across several headsets with different runtimes, and the team wants one input path without locking to a single vendor. What approach fits best?

- ☐ A Hardcode one SDK
- ☐ B Target OpenXR
- ☐ C Fork each runtime
- ☐ D Drop hand input

Correct answer: B

Targeting the OpenXR standard gives one portable interface to input and rendering across conformant runtimes, so the same build serves many headsets. Hardcoding a single vendor SDK or forking per runtime multiplies work, and dropping hand input removes a core interaction.