***Advanced System on Chip Course***

**QUIZ 10**

**Issue 1.0**

# MODULE 10: HDMI Input peripheral

**Question 1:**

The AXI4-Stream HDMI Input Peripheral described in the lecture:

1. transmits decoded data directly to the AXI4-Stream.
2. transmits decoded data to a VDMA and then to the AXI4-Stream.
3. takes data from a VDMA and then transmits decoded data directly to the AXI4-Stream.
4. takes data from a VDMA and then transmits 8b/10b coded data directly to the AXI4-Stream.

**Question 2:**

In the AXI4-Stream HDMI Input Peripheral described in the lecture, AXI4-Stream protocol signals are derived from the decoded TMDS signals in the following manner:

1. TLAST, TUSER, and TVALID are derived from the decoded HSYNC and VSYNC signals.
2. TLAST and TUSER are derived from the decoded HSYNC and VSYNC signals while TVALID is obtained from the VDMA.
3. TVALID and TUSER are derived from the decoded HSYNC and VSYNC signals while TLAST is obtained from the VDMA.
4. TLAST and TVALID are derived from the decoded HSYNC and VSYNC signals while TUSER is obtained from the VDMA.

**Question 3:**

The CEC:

1. is based on the SPI bus specification and used by the HDMI Source to read information on supported video/audio formats by the Sink.
2. is based on the SPI bus specification and is used by the HDMI Sink to read information on supported video/audio formats by the Source.
3. is based on the I2C bus specification and used by the HDMI Source to read information on supported video/audio formats by the Sink.
4. is based on the I2C bus specification and is used by the HDMI Sink to read information on supported video/audio formats by the Source.

**Question 4:**

Which of the following statements is correct?

1. CEC is a one-wire one-directional serial bus that is based on the AV.link protocol. CEC implementation is mandatory in a product, but CEC writing is optional.
2. CEC is a one-wire one-directional serial bus that is based on the AV.link protocol. CEC implementation is optional in a product, but CEC writing is mandatory.
3. CEC is a one-wire bidirectional serial bus that is based on the AV.link protocol. CEC implementation is mandatory in a product, but CEC writing is optional.
4. CEC is a one-wire bidirectional serial bus that is based on the AV.link protocol. CEC implementation is optional in a product, but CEC writing is mandatory.

**Question 5:**

The PHP signal:

1. is pulled-up to a positive voltage on sink devices to communicate the presence of a Sink to a Source.
2. may be asserted only when the +5V power line from the Source is detected.
3. may be pulled to a high voltage level HPD signal by the Source to initiate the reading of E-EDID data.
4. There is no signal in the HDMI interface with such a name.

**Answers**

Q1) 3

Q2) 2

Q3) 3

Q4) 4

Q5) 4