

1. Which one of the following is an exception which is detected at the end of the ID stage in the MIPS 5-stage pipeline?
- (a) Invalid register code
 - (b) Invalid opcode
 - (c) Overflow in branch target computation
 - (d) Unaligned branch target

Answer: (b)

2. In MIPS32 pipeline control, the control lines are generated
- (a) in the IF stage
 - (b) in the ID stage
 - (c) in the EX stage of the data producing instruction
 - (d) in the EX stage of the dependent instruction

Answer: (b)

3. In the MIPS32 pipeline, a stall is caused by
- (a) $PC = PC + 4$
 - (b) $PC = PC + 8$
 - (c) $PC = PC - 4$
 - (d) Disabling PCWrite

Answer: (d)

4. Micro-code is used for
- (a) introducing control stalls
 - (b) introducing data hazard stalls
 - (c) filling branch delay slots
 - (d) generating control lines for data forwarding

Answer: (a), (b), (d)

5. In 2008, Mark Serreze, of the US National Snow and Ice Data Center (NSIDC) said that the North Pole could be ice-free that year. In the period 2007-2023, the summer-minimum arctic sea ice extent has shown

(House points question, optional)

- (a) a continuing decline at the same rate as earlier
- (b) an accelerating decline at a faster rate than earlier
- (c) an increasing trend reversing the earlier decline
- (d) neither significant increase nor significant decrease

Answer: (d)