



**TRITON-PDH.COM**  
**6757 W. Charleston Boulevard, Suite B**  
**Las Vegas, NV 89146**  
**Admin@triton-pdh.com**

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Examination for Evaluation and Repair of Concrete Structures Part 3  
Chapters 5 & 6 only

**CHAPTER 5 – CONCRETE REMOVAL AND PREPARATION FOR REPAIR**

1. Recycling concrete debris should not be considered an alternative to landfill disposal?
  - a) True
  - b) False
  - c) Not enough information for a specific answer
  - d) Too many variables for a specific answer
  
2. Which of the following is not listed as an overall category of concrete removal methods?
  - a) Milling
  - b) Impacting
  - c) Drilling
  - d) Cutting
  
3. What is the primary disadvantage of using blasting methods to remove concrete?
  - a) Potential for high air-blast pressures
  - b) Potential for damage to remaining concrete
  - c) Potential for high ground vibrations
  - d) Potential for high rates of fly rock
  
4. Portable mechanical crushers are applicable for concrete removal when the shearing plane depth is?
  - a) 6 inches or less
  - b) 1.8 m or less
  - c) 6 feet or less
  - d) 300 mm or less
  
5. What cutting method would be most appropriate for a slab measuring 22 inches?
  - a) Diamond-wire cutting
  - b) Diamond-blade cutting
  - c) Abrasive-water-jet cutting
  - d) Stitch cutting

6. Which of the following is not a means of powering a hand-held impact breaker?
- a) Hydraulic pressure
  - b) Gasoline engine
  - c) Spring-powered
  - d) Electric motor
7. Rotary-head milling is not applicable for concrete having a compressive strength greater than?
- a) 8,000 psi
  - b) 7,000 psi
  - c) 9,000 psi
  - d) 6,000 psi
8. Plug and feather splitters are applicable where the presplitting depth is what?
- a) 1.2 m (4 ft) or more
  - b) 250 mm (10 in) or less
  - c) 1.2 m (4 ft) or less
  - d) 250 mm (10 in) or more
9. Steel shot blasting can produce light-brush blasting to what depth?
- a) 3 mm (1/8 inch)
  - b) 6 mm (1/4 inch)
  - c) 13 mm (1/2 inch)
  - d) 19 mm (3/4 inch)
10. How can the depth of reinforcing steel in concrete be determined?
- a) A chipping hammer
  - b) Structural drawings
  - c) A sounding hammer
  - d) A pathometer

## **CHAPTER 6 - MATERIALS AND METHODS FOR REPAIR AND REHABILITATION**

11. When using steel plates to repair cracks in slabs on grade, to what depth should saw cuts be made?
- a) 25 to 50 mm (1 to 2 in)
  - b) 75 to 150 mm (3 to 6 in)
  - c) 50 to 75 mm (2 to 3 in)
  - d) 150 to 300 mm (6 to 12 in)
12. With autogenous healing, healing will not occur in which of the following conditions?
- a) If the crack is subject to movement
  - b) If the crack is active
  - c) If there is a positive flow of water through the crack
  - d) All of the above

13. To minimize shrinkage cracking, repair concrete should have a high w/c and a low percentage of coarse aggregate?

- a) True
- b) False
- c) Not enough information for a specific answer
- d) Too many variables for a specific answer

14. What method is most often used to repair vertical crack in walls?

- a) Addition of reinforcement
- b) Drilling and plugging
- c) Crack arrest
- d) Drypacking

15. What type of cracks can be repaired using flexible sealing?

- a) Major, inactive cracks
- b) Minor, active cracks
- c) Major, active cracks
- d) Minor, inactive cracks

16. What repair method is effective for horizontal surfaces containing excessive shrinkage cracks?

- a) Gravity soak
- b) Chemical grouting
- c) Flexible sealing
- d) Drypacking

17. When using hydraulic-cement grouting, the crack width at the point of introduction should be?

- a) At least 6 mm (1/4 in)
- b) No greater than 3 mm (1/8 in)
- c) No greater than 6 mm (1/4 in)
- d) At least 3 mm (1/8 in)

18. Jacketing repairs require that the original, existing member be concrete?

- a) True
- b) False
- c) Not enough information for a specific answer
- d) Too many variables for a specific answer

19. What is the typical slump for latex-modified concrete?

- a)  $100 \pm 50$  mm ( $4 \pm 2$  in)
- b)  $100 \pm 25$  mm ( $4 \pm 1$  in)
- c)  $125 \pm 25$  mm ( $5 \pm 1$  in)
- d)  $125 \pm 50$  mm ( $5 \pm 2$  in)

20. Which of the following is not listed as a benefit of using epoxy resin as a protective coating?
- a) To protect against chemical attack
  - b) To protect against drying shrinkage
  - c) To protect against abrasion
  - d) To protect against freeze/thaw conditions
21. Which of the following is not listed as latex polymer used in PPCC?
- a) Polyvinyl acetate
  - b) Styrene butadiene
  - c) Polyvinyl chloride
  - d) Polyurethane resin
22. Cracks as narrow as what can be bonded by the injection of epoxy?
- a) 0.03 mm (0.0012 in)
  - b) 0.04 mm (0.0016 in)
  - c) 0.05 mm (0.0020 in)
  - d) 0.06 mm (0.0024 in)
23. The initial set of high alumina cement is reported to be what?
- a) Up to 3 hours
  - b) 15 to 20 minutes
  - c) Greater than 3 hours
  - d) 1 hour
24. Compared to conventionally placed concrete, RCC costs are?
- a) Up to 25 percent less
  - b) 25 to 50 percent less
  - c) 25 to 50 percent more
  - d) Less than 25 percent more
25. Guidance on the selection, proportioning and application of shotcrete can be found where?
- a) ACI 504R
  - b) EM 1110-2-2006
  - c) ACI 207.5R
  - d) EM 1110-2-2005
26. The optimum silica-fume content by mass of cement ranges from?
- a) 1 to 5 percent
  - b) 5 to 15 percent
  - c) 15 to 25 percent
  - d) 25 to 30 percent

27. When stitching a crack, the stitching dogs should be variable in length and orientation?

- a) True
- b) False
- c) Not enough information for a specific answer
- d) Too many variables for a specific answer



Answer Sheet for Evaluations and Repair of Concrete Structures Part 3  
 TPDH-00022

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Please return this answer sheet and your check or money order for \$80.00 to Triton-PDH.com

Please completely fill in one box for each answer

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I hereby certify that I have studied the course materials, and the above answers are my own.  
 No other person has helped me complete this examination.

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6757 W. Charleston Boulevard, Suite B  
Las Vegas, NV 89146



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