

NECEPT Asphalt Technician Certification

Pre-course Evaluation Exam

1. What is the meaning of a PG 64-22 binder?
 - (a) It refers to the polymer content of the binder between 64 and 22 percent.
 - (b) It refers to the binder grade satisfying performance criteria up to 64C and down to -22C.
 - (c) It refers to mass of the binder for mixing with the aggregate at ratio of 64 to 22.
 - (d) It refers to the volume of the binder to be mixed with aggregate at a ratio of 64-22.
2. Asphalt binder will be in liquid state at a temperature of?
 - (a) 100F
 - (b) 120F
 - (c) 200F
 - (d) 300F
3. What is the percent density (compaction) of an asphalt pavement for which test results on loose samples have given G_{mm} (maximum specific gravity) = 2.504, and on cores have given G_{mb} (bulk specific gravity) = 2.411?
 - (a) 98.1%
 - (b) 96.3%
 - (c) 93.1%
 - (d) 91.5%
4. Superpave 37.5-mm mix is used as the
 - (a) Surface Wearing course
 - (b) Intermediate or Binder layer course
 - (c) Base course
 - (d) In all layers
5. Unless special requirements are included, regardless of warm mix or hot mix asphalt construction with a PG 58S-22 binder, the mix temperature shall not exceed:
 - (a) 310°F
 - (b) 320°F
 - (c) 330°F
 - (d) 340°F
6. A typical production lot for an asphalt mix is made of
 - (a) 500 tons
 - (b) 1000 tons
 - (c) 2000 tons
 - (d) 2500 tons
7. A normal asphalt pavement lot has how many sublots?
 - (a) 3
 - (b) 4
 - (c) 5
 - (d) 6
8. Traffic may be allowed on a newly compacted asphalt mat when the temperature of the material has cooled to
 - (a) 175 °F
 - (b) 140 °F
 - (c) 155 °F
 - (d) 100 °F

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9. RAP refers to
- (a) Reclaimed asphalt pavement milled from the old pavement
 - (b) Recycled asphalt polymer milled from polymer asphalt
 - (c) Rejuvenated asphalt pavement
 - (d) Road applied polymer
10. What is the typical density of compacted asphalt pavement in pounds per cubic foot (PCF)?
- (a) 70
 - (b) 100
 - (c) 150
 - (d) 200
11. What is a reasonable typical value for voids content (air voids) of a sound compacted dense-graded asphalt pavement reported in percent?
- (a) 6
 - (b) 12
 - (c) 16
 - (d) 20
12. In an asphalt mixtures, the total amount of aggregate as a typical percent of the mass of the mixture is
- (a) 65%
 - (b) 75%
 - (c) 85%
 - (d) 95%
13. What seems to be a reasonable temperature of the asphalt pavement mat during the compaction process?
- (a) 100 °F
 - (b) 130 °F
 - (c) 280 °F
 - (d) 370 °F
14. Which statement is true regarding the material transfer vehicle (MTV)?
- (a) Moves the reclaimed asphalt pavement to the storage facility
 - (b) Places the received asphalt on the existing surface before compaction
 - (c) Receives the asphalt from the plant and transports to the job site
 - (d) Receives the asphalt mix from the haul truck and delivers to the paver
15. What is closest to the largest size of aggregate used in asphalt surface mixes?
- (a) 12 mm
 - (b) 19 mm
 - (c) 25 mm
 - (d) 50 mm
16. What is the typical thickness for the asphalt wearing course (surface layer)?
- (a) 10 inches
 - (b) 7 inches
 - (c) 4 inches
 - (d) 2 inches
17. What is closest to the largest size of aggregate used in asphalt base mixes?
- (a) 9 mm
 - (b) 12 mm
 - (c) 25 mm
 - (d) 50 mm

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18. Main ingredients of Microsurfacing are
- (a) Polymer modified asphalt emulsion, course-sized aggregate
 - (b) Polymer modified asphalt, small-sized aggregate, mineral filler
 - (c) Hot asphalt, course-sized aggregate
 - (d) Hot asphalt, small-sized aggregate, mineral filler
19. CNTT with a water/asphalt ratio of 33% / 67% (it means 33 percent is water and 67 percent is asphalt) is being applied at a rate of 0.09 gallons per square yard on a milled asphalt surface. Which of the following conditions now apply (See Spec Section 460)? The asphalt residue on the mat is
- (a) 0.04 gal/sq. yd.
 - (b) 0.06 gal/sq. yd.
 - (c) 0.08 gal/sq. yd.
 - (d) 0.10 gal/sq. yd.
20. The best practice for proper application of release agents to truck beds is:
- (a) Using diesel fuel if properly drained
 - (b) Applying only release agents that do not need to be drained
 - (c) Not using release agent if the truck bed is heated
 - (d) Checking for debris and dents prior to application and draining excess release agent
21. In transporting asphalt mix, trucks are required to have tarps or covers to properly protect the load
- (a) at all times
 - (b) only on long haul distances
 - (c) only when temperatures drop below 50 °F.
 - (d) only from October 1st to April 30th
22. As the truck backs up to the paver,
- (a) the truck should slow down and slowly contact the paver
 - (b) the truck should stop, the operator signals the paver operator, then slowly back into the paver
 - (c) the truck should stop, and the paver should pick up the truck as it moves forward
 - (d) the truck should stop, raise the bed, then slowly back into the paver
23. A PWL project calls for placing a 1 ½ -inch lift of a Superpave asphalt wearing course of 9.5mm mix, using a PG64 -22 binder, 3 to <10 million ESALS. You stick your ruler into the mat immediately behind the paver, prior to rolling, and measure the thickness to be 2.0 inches. This would indicate that:
- (a) You need to increase this uncompacted thickness to 3 inches
 - (b) You have sufficient thickness for proper compaction
 - (c) You have insufficient thickness for proper compaction
 - (d) You do not have sufficient information to determine any of the above

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24. As the speed of a steel drum roller decreases:

- (a) The compactive effort decreases
- (b) The compactive effort increases
- (c) The compactive effort is not changed
- (d) The pounds per lineal inch decreases

25. As the mat becomes denser the contact pressure between the mat and the roller

- (a) Decreases
- (b) Increases
- (c) Does not change
- (d) Could decrease or increase

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NOTE: **If you miss 7 or more questions (score 72% or less)**, you may want to consider taking a course on the basics of asphalt (such as the Asphalt Institutes' 101 Course) BEFORE registering for a NECEPT asphalt technician certification course.

ANSWERS

1. (b) It refers to the binder grade satisfying performance criteria up to 64C and down to -22C.
2. (d) 300F
3. (b) 96.3%
4. (c) Base course
5. (a) 310°F
6. (d) 2500 tons
7. (c) 5
8. (b) 140°F
9. (a) Reclaimed asphalt pavement milled from the old pavement
10. (c) 150
11. (a) 6
12. (d) 95%
13. (c) 280 °F
14. (d) Receives the asphalt mix from the haul truck and delivers to the paver
15. (a) 12 mm
16. (d) 2 inches
17. (c) 25 mm
18. (b) Polymer modified asphalt, small-sized aggregate, mineral filler
19. (b) 0.06 gal/sq. yd.
20. (d) Checking for debris and dents prior to application and draining excess release agent
21. (a) at all times
22. (c) the truck should stop, and the paver should pick up the truck as it moves forward
23. (b) You have sufficient thickness for proper compaction
24. (b) The compactive effort increase
25. (b) Increases