1. The R-value is a measure of the ability of a material to ________________.
   A. Resist the passage of moisture
   B. Resist heat conduction
   C. Allow cold air to enter a building
   D. Convert water vapor into a liquid

2. The safety data sheets provided with materials that contain hazardous chemicals must be ____________.
   A. Posted prominently on the job site
   B. Properly stored for reference in case of emergency
   C. Given to each worker on the job
   D. Attached to the building plans

3. A vapor barrier is any material that ________________.
   A. Is used to cover building walls
   B. Prevents the infiltration of air
   C. Prevents the passage of water
   D. Is used to prevent roof leaks

4. Insulation sheathing can be installed to significantly reduce ________________.
   A. Heat loss
   B. Construction time
   C. The need for bracing
   D. Labor costs

5. Resistance to conductive heat flow through a material or gas is measured as an ____________.
   A. C-value
   B. F-value
   C. N-value
   D. R-value
6. Manufactured insulation is based on trapping __________.
   A. Large amounts of air in a few small spaces
   B. Large amounts of air in a large number of very small spaces
   C. Large amounts of air in a few large spaces
   D. Small amounts of air in a few large spaces

7. For thermal transmission control purposes, insulation does not have to be installed ________.
   A. Above ceilings
   B. In exterior walls
   C. In interior walls
   D. Beneath floors over crawl spaces

8. Flexible insulation may be faced with fire resistant foil scrim, which is abbreviated as __________.
   A. FRSI
   B. FSK
   C. FFS
   D. FRFS

9. A loose-fill insulation material that does not need to be treated to resist fire or insect infestation is __________.
   A. Wood fiber
   B. Shredded paper
   C. Glass wool
   D. Cork

10. Rigid foam insulation may have insulation values as high as ____________.
    A. R-8
    B. R-18
    C. R-22
    D. R-30

11. Rigid and semirigid insulation is available in sheets up to 4' wide and __________.
    A. 4' long
    B. 6' long
    C. 8' long
    D. 12' long
12. The primary purpose of structural insulating boards is______________.
   A. Insulation  
   B. Appearance  
   C. Structural  
   D. Waterproofing

13. The insulating value of reflective insulation depends upon ____________.
   A. The thickness of the material  
   B. The number of reflective surfaces  
   C. The presence of a vapor barrier  
   D. Proper ventilation

14. When cutting flexible insulation to prepare for installation, measure the height of a wall cavity (space between studs), then add ____________.
   A. 2"  
   B. 3"  
   C. 4"  
   D. 5"

15. Before applying rigid insulation to the exterior of a foundation, the foundation wall should be ____________.
   A. Sealed  
   B. Sprayed with a primer  
   C. Waterproofed  
   D. Roughened for good adhesion

16. Rigid insulation is usually installed around the perimeter of a concrete slab, under the slab to a distance from the edge of ____________.
   A. 8" to 12"  
   B. 12" to 18"  
   C. 18" to 24"  
   D. 24" to 36"

17. For flat roofs, ventilation is achieved by a combination of eave vents and ____________.
   A. Roof stacks  
   B. Parapet louvers  
   C. Ridge vents  
   D. Venturi tubes
18. Moisture dissipation from attic spaces occurs through a combination of wind-induced ventilation and ________________.
   A. Convection
   B. Radiation
   C. Conduction
   D. Diffusion

19. When a vapor barrier is used under the ceiling, proper free air ventilation for a gable roof is defined as 1 sq ft for every ____________.
   A. 150 sq ft of attic area
   B. 160 sq ft of attic area
   C. 300 sq ft of attic area
   D. 320 sq ft of attic area

20. A vapor barrier material that is totally impermeable will have a perm rating of ____________.
   A. 0.0
   B. 0.5
   C. 1.0
   D. 1.5

21. A vapor barrier is any material with a perm rating of less than ____________.
   A. 0.01
   B. 0.05
   C. 0.1
   D. 1.0

22. Asphalted kraft paper is usually incorporated with ____________.
   A. Semirigid insulation
   B. Blanket or batt insulation
   C. Reflective insulation
   D. Structural foam insulation

23. Of moisture entering a structure, migration of moisture from the ground below the building accounts for up to ____________.
   A. 50 percent
   B. 60 percent
   C. 70 percent
   D. 80 percent
24. When waterproofing material is sprayed on exterior below-grade walls, backfilling of the walls should be avoided for

A. One to two days  
B. Two to three days  
C. Three to four days  
D. Five to six days

25. The vertical seams of building wrap are usually overlapped at each corner of the building by ______________.

A. 2" to 6"  
B. 3" to 4"  
C. 6" to 12"  
D. 12" to 18"

Answer Key

1. B 2.0.0   
2. B 1.2.0   
3. C 2.0.0   
4. A 2.1.0   
5. D 2.0.0   
6. B 2.1.0   
7. C 2.1.0   
8. B 2.2.0   
9. C 2.3.0   
10. D 2.4.0  
11. D 2.4.0  
12. C 2.4.0  
13. B 2.5.0  
14. B 3.1.0  
15. C 3.3.0  
16. D 3.3.0  
17. A 4.1.1  
18. D 4.1.1  
19. C 4.1.1  
20. A 4.1.2  
21. D 4.1.2  
22. B 4.1.3  
23. D 4.1.5  
24. A 4.2.0  
25. D 4.2.4