

EXAMINATION SECTION

TEST 1

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. The combustion efficiency of a boiler can be determined with a CO₂ indicator and the _____ 1.____
 - A. under fire draft
 - B. boiler room humidity
 - C. flue gas temperature
 - D. outside air temperature

2. A quick, practical method of determining if the cast-iron waste pipe delivered to a job has been damaged in transit is to _____ 2.____
 - A. hydraulically test it
 - B. "ring" each length with a hammer
 - C. drop each length to see whether it breaks
 - D. visually examine the pipe for cracks

3. An electrostatic precipitator is used to _____ 3.____
 - A. filter the air supply
 - B. remove sludge from the fuel oil
 - C. remove particles from the fuel gas
 - D. supply samples for an Orsat analysis

4. The PRIMARY cause of cracking and spalling of refractory lining in the furnace of a steam generator is *most likely* due to _____ 4.____
 - A. continuous over-firing of boiler
 - B. slag accumulation on furnace walls
 - C. change in fuel from solid to liquid
 - D. uneven heating and cooling within the refractory brick

5. The term "effective temperature" in air conditioning means _____ 5.____
 - A. the dry bulb temperature
 - B. the average of the wet and dry bulb temperatures
 - C. the square root of the product of wet and dry bulb temperatures
 - D. an arbitrary index combining the effects of temperature, humidity, and movement

6. The piping in all buildings having dual water distribution systems should be identified by a color coding of _____ for potable water lines and _____ for non-potable water lines. 6.____
 - A. green; red
 - B. green; yellow
 - C. yellow; green
 - D. yellow; red

7. The breaking of a component of a machine subjected to excessive vibration is called _____ 7.____
 - A. tensile failure
 - B. fatigue failure
 - C. caustic embrittlement
 - D. amplitude failure

8. The TWO MOST important factors to be considered in selecting fans for ventilating systems are 8. _____
- A. noise and efficiency
 - B. space available and weight
 - C. first cost and dimensional bulk
 - D. construction and arrangement of drive
9. In the modern power plant deaerator, air is removed from water to 9. _____
- A. reduce heat losses in the heaters
 - B. reduce corrosion of boiler steel due to the air
 - C. reduce the load of the main condenser air pumps
 - D. prevent pumps from becoming vapor bound
10. The abbreviations BOD, COD, and DO are associated with 10. _____
- A. flue gas analysis
 - B. air pollution control
 - C. boiler water treatment
 - D. water pollution control
11. The piping of a newly installed drainage system should be tested upon completion of the rough plumbing with a head of water of NOT LESS THAN _____ feet. 11. _____
- A. 10
 - B. 15
 - C. 20
 - D. 25
12. Of the following statements concerning aquastats, the one which is CORRECT is: 12. _____
- A. Aquastats may be obtained with either a narrow or wide range of settings
 - B. Aquastats have a mercury tube switch which is controlled by the stack switch
 - C. An aquastat is a device used to shut down the burner in the event of low water in the boiler
 - D. An aquastat should be located about 4 inches above the normal water line of the boiler
13. The SAFEST way to protect the domestic water supply from contamination by sewage or non-potable water is to insert 13. _____
- A. air gaps
 - B. swing connections
 - C. double check valves
 - D. tanks with overhead discharge
14. The MAIN function of a back-pressure valve which is sometimes found in the connection between a water drain pipe and the sewer system is to 14. _____
- A. equalize the pressure between the drain pipe and the sewer
 - B. prevent sewer water from flowing into the drain pipe
 - C. provide pressure to enable waste to reach the sewer
 - D. make sure that there is not too much water pressure in the sewer line
15. Boiler water is neutral if its pH value is 15. _____
- A. 0
 - B. 1
 - C. 7
 - D. 14

- C. circulate water for the heating system
D. provide adequate pressure for the water supply
24. The name "Saybolt" is associated with the measurement of 24. _____
A. viscosity B. Btu content
C. octane rating D. temperature
25. Recirculation of conditioned air in an air-conditioned building is done MAINLY to 25. _____
A. reduce refrigeration tonnage required
B. increase room entrophy
C. increase air specific humidity
D. reduce room temperature below the dewpoint
26. In a plumbing installation, vent pipes are GENERALLY used to 26. _____
A. prevent the loss of water seal from traps by evaporation
B. prevent the loss of water seal due to several causes other than evaporation
C. act as an additional path for liquids to flow through during normal use of a plumbing fixture
D. prevent the backflow of water in a cross-connection between a drinking water line and a sewage line
27. The designation "150 W" cast on the bonnet of a gate valve is an indication of the 27. _____
A. water working temperature
B. water working pressure
C. area of the opening in square inches
D. weight of the valve in pounds
28. In the city, the size soil pipe necessary in a sewage drainage system is determined by the 28. _____
A. legal occupancy of the building
B. vertical height of the soil line
C. number of restrooms connected to the soil line
D. number of "fixture units" connected to the soil line
29. Fins or other extended surfaces are used on heat exchanger tubes when 29. _____
A. the exchanger is a water-to-water exchanger
B. water is on one side of the tube and condensing steam on the other side
C. the surface coefficient of heat transfer on both sides of the tube is high
D. the surface coefficient of heat transfer on one side of the tube is low compared to the coefficient on the other side of the tube
30. A fusible plug may be put in a fire tube boiler as an emergency device to indicate low water level. The fusible plug is installed so that under normal operating conditions, 30. _____
A. both sides are exposed to steam
B. one side is exposed to water and the other side to steam
C. one side is exposed to steam and the other side to hot gases
D. one side is exposed to the water and the other side to hot gases

31. Extra strong wrought-iron pipe, as compared to standard wrought-iron pipe of the same nominal size, has 31. _____
- A. the same outside diameter but a smaller inside diameter
 - B. the same inside diameter but a larger outside diameter
 - C. a larger outside diameter and a smaller inside diameter
 - D. larger inside and outside diameters
32. Fans may be rated on a dynamic or a static efficiency basis. The dynamic efficiency would *probably* be 32. _____
- A. lower in value because of the energy absorbed by the air velocity
 - B. the same as the static in the case of centrifugal blowers running at various speeds
 - C. the same as the static in the case of axial flow blowers running at various speeds
 - D. higher in value than the static
33. The function of the stack relay in an oil burner installation is to 33. _____
- A. regulate the draft over the fire
 - B. regulate the flow of fuel oil to the burner
 - C. stop the motor if the oil has not ignited
 - D. stop the motor if the water or steam pressure is too high
34. The type of centrifugal pump which is inherently balanced for hydraulic thrust is the 34. _____
- A. double suction impeller type
 - B. single suction impeller type
 - C. single stage type
 - D. multistage type
35. The specifications for a job using sheet lead calls for "4-lb. sheet lead." This means that each sheet should weigh 35. _____
- A. 4 lbs.
 - B. 4 lbs. per square
 - C. 4 lbs. per square foot
 - D. 4 lbs. per cubic inch
36. The total cooling load design conditions for a building are divided for convenience into two components. These are: 36. _____
- A. infiltration and radiation
 - B. sensible heat and latent heat
 - C. wet and dry bulb temperatures
 - D. solar heat gain and moisture transfer
37. The function of a Hartford loop used on some steam boilers is to 37. _____
- A. limit boiler steam pressure
 - B. limit temperature of the steam
 - C. prevent high water levels in the boiler
 - D. prevent back flow of water from the boiler into the return main

38. Vibration from a ventilating blower can be prevented from being transmitted to the duct work by 38. _____
- A. installing straighteners in the duct
 - B. throttling the air supply to the blower
 - C. bolting the blower tightly to the duct
 - D. installing a canvas sleeve at the blower outlet
39. A specification states that access panels to suspended ceiling will be of metal. The MAIN reason for providing access panels is to 39. _____
- A. improve the insulation of the ceiling
 - B. improve the appearance of the ceiling
 - C. make it easier to construct the building
 - D. make it easier to maintain the building
40. A plumber on a job reports that the steamfitter has installed a 3" steam line in a location at which the plans show the house trap. On inspecting the job, you should 40. _____
- A. tell the steamfitter to remove the steam line
 - B. study the condition to see if the house trap can be relocated
 - C. tell the plumber and steamfitter to work it out between themselves and then report to you
 - D. tell the plumber to find another location for the trap because the steamfitter has already completed his work
41. In the installation of any heating system, the MOST important consideration is that 41. _____
- A. all elements be made of a good grade of cast iron
 - B. all radiators and connectors be mounted horizontally
 - C. the smallest velocity of flow of heating medium be used
 - D. there be proper clearance between hot surfaces and surrounding combustible material
42. Which one of the following is the PRIMARY object in drawing up a set of specifications for materials to be purchased? 42. _____
- A. Control of quality
 - B. Outline of intended use
 - C. Establishment of standard sizes
 - D. Location and method of inspection.
43. The drawing which should be used as a LEGAL reference when checking completed construction work is the _____ drawing. 43. _____
- A. contract
 - B. assembly
 - C. working or shop
 - D. preliminary

48. No. 13 is a 48. _____
 A. standpipe
 C. sprinkler head
 B. air inlet
 D. cleanout
49. The size of No. 16 is 49. _____
 A. 2" x 2"
 C. 3" x 3"
 B. 2" x 3"
 D. 4" x 4"
50. No. 18 is a 50. _____
 A. pressure reducing valve
 B. butterfly valve
 C. curb cock
 D. sprinkler head

KEY (CORRECT ANSWERS)

1. C	11. A	21. D	31. A	41. D
2. B	12. C	22. D	32. D	42. A
3. C	13. A	23. B	33. C	43. A
4. D	14. B	24. A	34. A	44. C
5. D	15. C	25. A	35. C	45. B
6. B	16. A	26. B	36. B	46. C
7. B	17. A	27. B	37. D	47. A
8. A	18. D	28. D	38. D	48. B
9. B	19. B	29. D	39. D	49. D
10. D	20. D	30. D	40. B	50. C

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1. Concrete with a slump of 2 inches would *most likely* be used for 1. ____
 - A. floors
 - B. thin wall sections
 - C. columns
 - D. deep beams

2. The structure above the roof of a building which encloses a stairway is called a 2. ____
 - A. scuttle
 - B. bulkhead
 - C. penthouse
 - D. shaft

3. A #4 reinforcing bar has a diameter, in inches, of *approximately* 3. ____
 - A. 1/4
 - B. 3/8
 - C. 1/2
 - D. 5/8

4. A spandrel beam will usually be found 4. ____
 - A. at the wall
 - B. around stairs
 - C. at the peak of a roof
 - D. underneath a column

5. Oil is applied to the inside surfaces of concrete forms to 5. ____
 - A. prevent loss of water from the concrete
 - B. obtain smoother concrete surfaces
 - C. make stripping easier
 - D. prevent honeycombing

6. A retaining wall is built with a batter. 6. ____
Of the following conditions, the one which *most likely* applies to the wall is
 - A. it is out of plumb
 - B. it is thinner at top than at bottom
 - C. neither surface is vertical
 - D. both surfaces are vertical

7. Two cubic yards of sand and four cubic yards of broken stone are to be used to make 7. ____
1:2:4 concrete.
If all the aggregate is used, the number of bags of cement that would be required is
 - A. 1
 - B. 9
 - C. 18
 - D. 27

8. A rectangular plot is 30 feet wide by 60 feet long. The length of the diagonal, in feet, is 8. ____
most nearly
 - A. 68
 - B. 67
 - C. 66
 - D. 65

9. Wood floor joists are supported on masonry walls which have a clear spacing of 17'0". 9. ____
The number of rows of cross-bridging required is
 - A. 4
 - B. 3
 - C. 2
 - D. 1

10. When painting wood, the putting of nail holes and cracks should be done 10. _____
- A. *after* the priming coat is dry
 - B. *before* the priming coat is applied
 - C. *while* the priming coat is still wet
 - D. *after* the finish coat is applied
11. The material that would normally be used to make a corbel in a brick wall is 11. _____
- A. brick
 - B. wood
 - C. steel
 - D. concrete
12. Headers and trimmers are used in the construction of 12. _____
- A. footings
 - B. walls
 - C. floors
 - D. arches
13. In the design of stairs, the designer should consider 13. _____
- A. maximum height of riser only
 - B. minimum width of tread only
 - C. product of riser height by tread width only
 - D. all of the above
14. A reduction in the required number of columns in a building can be made by using one of the following types of beam. Which one? 14. _____
- A. floor
 - B. girder
 - C. cantilever
 - D. jack
15. Doors sheathed in metal are known as _____ doors. 15. _____
- A. kalamein
 - B. tin-clad
 - C. bethlehem
 - D. flemish
16. A coat of plaster which is scratched deliberately *would most likely* be 16. _____
- A. used in two-coat work only
 - B. the first coat placed
 - C. the second coat placed
 - D. condemned by the inspector
17. A concealed draft opening is 17. _____
- A. *good* because it improves the appearance of a room
 - B. *bad* because it might be accidentally blocked up
 - C. *good* because it can be used to regulate the flow of fresh air
 - D. *bad* because it is a fire hazard
18. A groove is cut in the underside of a stone sill. This is done to 18. _____
- A. keep rain water from running down the wall
 - B. allow the insertion of dowels
 - C. improve the mortar bond
 - D. reduce the weight of the sill

19. Of the following, the one which would LEAST likely be used in conjunction with the others is 19.____
- A. rafter
C. ridgeboard
- B. collar beam
D. tail beam
20. The dimensions of a 2 x 4 when dressed are, *most nearly*, 20.____
- A. 2 x 4
C. 1 5/8 x 3 5/8
- B. 1 1/2 x 3 1/2
D. 1 3/4 x 3 1/2
21. The story heights of a building could be MOST readily determined from 21.____
- A. a plan view
B. an elevation view
C. a plot map
D. all of the above
22. Honeycombing in concrete is *most likely* to occur 22.____
- A. if the forms are vibrated
B. near the top of the forms
C. if the mix is stiff
D. if the concrete is well-spaded ...
23. A weather joint in brick work is one in which the mortar is 23.____
- A. flush with the face of the lower brick and slopes inward
B. flush with the face of the upper brick and slopes inward
C. recessed a fixed distance behind the face of the brick
D. flush with the face of upper and lower brick but curves inward between the two bricks
24. A 12 inch brick wall is constructed using stretchers only. The PRINCIPAL objection to such a wall is with 24.____
- A. appearance
C. bond
- B. construction difficulties
D. dimensional problems
25. To prevent sagging joists from damaging a brick wall in the event of a fire, it is BEST to 25.____
- A. anchor the joists firmly in the wall
B. make a bevel cut on the end of the joists
C. use bridal irons to support the joists
D. box out the wall for the joists
26. Flashing would *most likely* be found in a 26.____
- A. footing
B. floor
C. ceiling
D. parapet
27. Vermiculite is used in plaster to 27.____
- A. reduce weight
B. permit easier cleaning
C. give architectural effects
D. reduce the mixing water required

4 (#1)

28. The volume in cubic feet of a room 8'6" wide by 10'6" long by 8'8" high is *most nearly* 28. _____
A. 770 B. 774 C. 778 D. 782
29. A slab of concrete is 2'0" by 3'0" by 8" thick. 29. _____
The weight of the slab is, in pounds, *most nearly*
A. 450 B. 500 C. 550 D. 600
30. Wainscoting is USUALLY found on 30. _____
A. floors B. walls C. ceilings D. roofs
31. A piece of wood covering the plaster below the stool of a window is called a(n) 31. _____
A. apron B. sill C. coping D. trimmer
32. English bond is used in 32. _____
A. plastering B. papering C. roofing D. bricklaying
33. In plastering, coves would *most likely* be found where 33. _____
A. wall meets ceiling B. one wall meets another
C. wall meets floor D. wall meets column
34. Fire stopping is usually accomplished by 34. _____
A. installing self-closing doors
B. bricking up the space between furring at floors
C. installing wire glass
D. using fire resistive materials throughout the building
35. A Class 1 (fireproof structure) building has floor sleepers of wood. This is 35. _____
A. *not permitted*
B. *permitted*
C. *permitted* if the space between sleepers is filled with incombustible material
D. *permitted* if a wearing surface similar to asphalt tile is applied to the wooden flooring
-



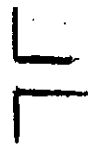

KEY (CORRECT ANSWERS)

- | | | | |
|-----|---|-----|---|
| 1. | A | 16. | B |
| 2. | B | 17. | D |
| 3. | C | 18. | A |
| 4. | A | 19. | D |
| 5. | C | 20. | C |
| 6. | B | 21. | B |
| 7. | D | 22. | C |
| 8. | B | 23. | A |
| 9. | C | 24. | C |
| 10. | A | 25. | B |
| 11. | A | 26. | D |
| 12. | C | 27. | A |
| 13. | D | 28. | B |
| 14. | C | 29. | D |
| 15. | A | 30. | B |
| | | 31. | A |
| | | 32. | D |
| | | 33. | A |
| | | 34. | B |
| | | 35. | C |
-

TEST 2

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. Joints on interior surfaces of brick walls are usually flush joints EXCEPT when the walls are to be _____
 - A. painted
 - B. plastered
 - C. waterproofed
 - D. dampproofed
2. The headers in a brick veneer wall serve _____
 - A. both a structural and an architectural purpose
 - B. a structural purpose only
 - C. an architectural purpose only
 - D. NO structural or architectural purpose
3. Of the following, the one which is NOT usually classified as interior wood trim is _____
 - A. apron
 - B. ribbon
 - C. jamb
 - D. base mold
4. Single-strength glass would *most likely* be found in _____
 - A. single light sash
 - B. doors in fire walls
 - C. doors in fire partitions
 - D. multi-light sash
5. The one of the following items that is LEAST related to the others is _____
 - A. newel
 - B. riser
 - C. nosing
 - D. sill
6. In a plastered room, grounds for plaster are LEAST likely to be used _____
 - A. at baseboards
 - B. around windows
 - C. around doors
 - D. at the top of wainscoting
7. Of the following types of walls, the type which is *most likely* an interior wall is _____
 - A. curtain
 - B. faced
 - C. panel
 - D. fire
8. *Boxing* is *most likely* to be performed by a _____
 - A. mason
 - B. plasterer
 - C. plumber
 - D. painter
9. Linseed oil is classified as a _____
 - A. vehicle
 - B. thinner
 - C. drying oil
 - D. pigment

10. Curing of concrete would be MOST critical when the temperature and humidity are, respectively, 10. _____
- A. 75° and 80% B. 80° and 90%
C. 85° and 10% D. 90° and 95%
11. Of the following items, the item which is LEAST related to the others is 11. _____
- A. putty B. sash weight
C. glazier's points D. lights
12. Assume that a wood-frame house has studs of 2 x 4's. 12. _____
Placing the studs so that the wider dimension is parallel to the wall is
- A. good because it provides a wider nailing surface for sheathing and lathing
B. bad because it reduces the open space available for windows
C. good because it stiffens the frame
D. bad because it reduces the load-carrying capacity of the studs
13. Government anchors are used in one of the following types of construction. Which one? 13. _____
- A. Wood frame
B. Steel beams supported on masonry bearing walls
C. Wooden joists on masonry bearing walls
D. Steel frame with steel joists
14. When rivet holes in structural steel fail to match up by an eighth of an inch, the BEST thing to do is 14. _____
- A. ignore the mismatch and force the rivet into the hole
B. enlarge the holes with a drift pin
C. ream the holes to a larger diameter
D. use a smaller sized rivet
15. The BEST way to use two angles to make a lintel is 15. _____
- A.  B.  C.  D. 
16. A single channel section would *most likely* be used for a 16. _____
- A. floor beam B. girder
C. spandrel beam D. column
17. An oil-base paint is usually thinned with 17. _____
- A. linseed oil B. turpentine
C. a drying oil D. a resin
18. Red lead is often used as a pigment in metal priming paints PRIMARILY because it 18. _____
- A. provides good coverage B. presents a good appearance
C. makes painting easier D. is a rust inhibitor

19. Knots in wood that is to be painted 19. _____
A. require no special treatment
B. should be painted with the priming paint before the priming paint is applied to the rest of the wood
C. should be coated with linseed oil before any painting is done
D. should be coated with shellac before any painting is done
20. A dove-tail anchor would *most likely* be used to bond brick veneer with a _____ wall. 20. _____
A. brick B. concrete C. wood frame D. concrete block
21. A rafter is MOST similar in function to a 21. _____
A. joist B. stud C. sill D. girder
22. In steel construction, it is usually MOST important to mill the ends of 22. _____
A. beams B. girders C. columns D. lintels
23. Furring tile is usually set so that the air spaces in the tile are 23. _____
A. continuous in a vertical direction
B. continuous in a horizontal direction
C. closed off at the ends of each tile
D. set at random
24. When plastering a wall surface of glazed tile, it is MOST important that the tile 24. _____
A. be wet B. be dry
C. be scored D. joints be raked
25. In a peaked roof, the run of a rafter is 25. _____
A. less than the length of the rafter
B. greater than the length of the rafter
C. equal to the length of the rafter
D. dependent upon the slope of the rafter
26. Construction of a dormer window does NOT usually involve 26. _____
A. cut rafters B. rafter headers
C. trimmer rafters D. hip rafters
27. In a four-ply slag roof, 27. _____
A. there is no overlap of the roofing felt
B. a uniform coating of pitch or asphalt is placed on top of the top layer of felt
C. slag is placed between the layers of felt
D. there is no need to use flashing
28. Copper wire basket strainers would *most likely* be used by a 28. _____
A. carpenter B. plumber C. painter D. roofer

29. Splices of columns in steel construction are usually made 29.____
A. at floor level
B. two feet above floor level
C. two feet below floor level
D. midway between floors
30. In plumbing, a lead bend is usually used in the line from a 30.____
A. slop sink
B. shower
C. water closet
D. kitchen sink
31. The location of leaks in gas piping may be BEST detected by use of a 31.____
A. match
B. heated filament
C. soapy water solution
D. guinea pig
32. The one of the following items that would be MOST useful in eliminating water hammer from a water system is a 32.____
A. magnesium anode
B. surge tank
C. clean out
D. quick-closing valve
33. The MAIN purpose of a fixture trap is to 33.____
A. catch small articles that may have accidentally dropped in the fixture
B. prevent back syphonage
C. make it easier to repair the fixture
D. block the passage of foul air
34. In a certain district, the area of a building may be no longer than 55% of the area of the lot on which it stands. On a rectangular lot 75 ft. by 125 ft., the maximum permissible area of building is, in square feet, *most nearly* 34.____
A. 5148 B. 5152 C. 5156 D. 5160
35. The allowable tensile stress in steel is 18,000 pounds per square inch. The maximum permissible tensile load in a 1-inch diameter steel bar is, in pounds, *most nearly* 35.____
A. 13,500 B. 13,800 C. 14,100 D. 14,400
-

KEY (CORRECT ANSWERS)

- | | |
|-------|-------|
| 1. B | 16. C |
| 2. C | 17. B |
| 3. B | 18. D |
| 4. D | 19. D |
| 5. D | 20. B |
| 6. D | 21. A |
| 7. D | 22. C |
| 8. D | 23. B |
| 9. A | 24. C |
| 10. C | 25. A |
| 11. B | 26. D |
| 12. D | 27. B |
| 13. B | 28. D |
| 14. C | 29. B |
| 15. A | 30. C |
| 31. C | |
| 32. B | |
| 33. D | |
| 34. C | |
| 35. C | |

TEST 3

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. The ends of a joist in a brick building are cut to a bevel. This is done PRINCIPALLY to prevent damage to 1. ____
A. joist B. floor C. sill D. wall
2. Of the following, the wood that is MOST commonly used today for floor joists is 2. ____
A. long leaf yellow pine B. douglas fir
C. oak D. birch
3. Quarter sawed lumber is preferred for the best finished flooring PRINCIPALLY because it 3. ____
A. has the greatest strength
B. shrinks the least
C. is the easiest to nail
D. is the easiest to handle
4. Of the following, the MAXIMUM height that would be considered acceptable for a stair riser is 4. ____
A. 6 1/2" B. 7 1/2" C. 8 1/2" D. 9 1/2"
5. The part of a tree that will produce the DENSEST wood is the _____ wood. 5. ____
A. spring B. summer C. sap D. heart
6. Lumber in quantity is ordered by 6. ____
A. cubic feet B. foot board measure
C. lineal feet D. weight and length
7. A *chase* in a brick wall is a 7. ____
A. pilaster B. waterstop C. recess D. corbel
8. *Parging* refers to 8. ____
A. increasing the thickness of a brick wall
B. plastering the back of face brickwork
C. bonding face brick to backing blocks
D. leveling each course of brick
9. In brickwork, muriatic acid is commonly used to 9. ____
A. increase the strength of the mortar
B. etch the brick
C. waterproof the wall
D. clean the wall

22. The FIRST coat of plaster over rock lath should be a _____ plaster. 22. _____
 A. gypsum B. lime
 C. Portland cement D. pozzolan cement
23. The PRINCIPAL reason for covering a concrete sidewalk with straw or paper after the concrete has been poured is to 23. _____
 A. prevent people from walking on the concrete while it is still wet
 B. impart a rough, non-slip surface to the concrete
 C. prevent excessive evaporation of water in the concrete
 D. shorten the length of time it would take for the concrete to harden
24. Concrete is *rubbed* with a(n) 24. _____
 A. emery wheel B. carborundum brick
 C. sandstone D. alundum stick
25. To prevent concrete from sticking to forms, the forms should be painted with 25. _____
 A. oil B. kerosene C. water D. lime
26. One method of measuring the consistency of a concrete mix is by means of a _____ test. 26. _____
 A. penetration B. flow
 C. slump D. weight
27. A chemical that is sometimes used to prevent the freezing of concrete in cold weather is 27. _____
 A. alum B. glycerine
 C. calcium chloride D. sodium nitrate
28. The one of the following that is LEAST commonly used for columns is 28. _____
 A. wide flange beams B. angles
 C. concrete-filled pipe D. "I" beams
29. Fire protection of steel floor beams is MOST frequently accomplished by the use of 29. _____
 A. gypsum block B. brick
 C. rock wool fill D. vermiculite gypsum plaster
30. A *Pittsburgh look* is a(n) 30. _____
 A. emergency door lock B. sheet metal joint
 C. elevator safety D. boiler valve
31. Of the following items, the one which is NOT used in making fastenings to masonry or plaster walls is a(n) 31. _____
 A. lead shield B. expansion bolt
 C. rawl plug D. steel bushing
32. The term *bell and spigot* USUALLY refers to 32. _____
 A. refrigerator motors B. cast iron pipes
 C. steam radiator outlets D. electrical receptacles

33. In plumbing work, a valve which allows water to flow in one direction only is commonly known as a _____ valve.

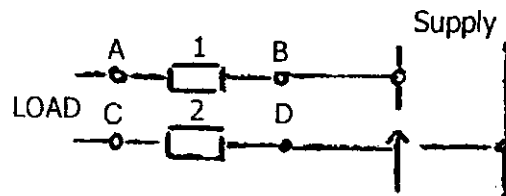
- A. check B. globe C. gate D. stop

34. A pipe coupling is BEST used to connect two pieces of pipe of

- A. the same diameter in a straight line
 B. the same diameter at right angles to each other
 C. different diameters at a 45° angle
 D. different diameters in a 1/8th bend

35. One method of testing fuses is to connect a pair of test lamps in the circuit in such a manner that the test lamp will light up if the fuse is good and will remain dark if the fuse is bad. In the illustration, 1 and 2 are fuses. In order to test if fuse 1 is bad, test lamps should be connected between

- A. A and B B. B and D C. A and D D. C and B



36. Operating an incandescent electric light bulb at less than its rated voltage will result in

- A. shorter life and brighter light
 B. longer life and dimmer light
 C. brighter light and longer life
 D. dimmer light and shorter life

37. In order to control a lamp from two different positions, it is necessary to use

- A. two single pole switches
 B. one single pole switch and one four-way switch
 C. two three-way switches
 D. one single pole switch and one four-way switch

38. The PRINCIPAL reason for the grounding of electrical equipment and circuits is to

- A. prevent short circuits B. insure safety from shock
 C. save power D. increase voltage

39. The ordinary single-pole flush wall type switch must be connected

- A. across the line
 B. in the "hot" conductor
 C. in the grounded conductor
 D. in the white conductor

40. A strike plate is MOST closely associated with a

- A. lock B. sash C. butt D. tie rod

41. A room is 7'6" wide by 9'0" long, with a ceiling height of 8'0". One gallon of flat paint will cover approximately 400 square feet of wall. The number of gallons of this paint required to paint the walls of this room, making no deductions for windows or doors, is *most nearly* _____ gallon.
- A. 1/4 B. 1/3 C. 3/4 D. 1
42. The cost of a certain job is broken down as follows:
- | | |
|---------------------|-------|
| Materials | \$375 |
| Rental of equipment | 120 |
| Labor | 315 |
- The percentage of the total cost of the job that can be charged to materials is *most nearly*
- A. 40% B. 42% C. 44% D. 46%
43. By trial, it is found that by using two cubic feet of sand, a 5 cubic foot batch of concrete is produced. Using the same proportions, the amount of sand required to produce 2 cubic yards of concrete is *most nearly* _____ cubic feet.
- A. 20 B. 22 C. 24 D. 26
44. It takes four men six days to do a certain job. Working at the same speed, the number of days it will take three men to do this job is
- A. 7 B. 8 C. 9 D. 10
45. The cost of rawl plugs is \$2.75 per gross. The cost of 2,448 rawl plugs is
- A. \$46.75 B. \$47.25 C. \$47.75 D. \$48.25

KEY (CORRECT ANSWERS)

- | | | | | |
|-------|-------|-------|-------|-------|
| 1. D | 11. B | 21. B | 31. D | 41. C |
| 2. B | 12. D | 22. A | 32. B | 42. D |
| 3. B | 13. C | 23. C | 33. A | 43. B |
| 4. B | 14. D | 24. B | 34. A | 44. B |
| 5. D | 15. C | 25. A | 35. C | 45. A |
| 6. B | 16. C | 26. C | 36. B | |
| 7. C | 17. A | 27. C | 37. C | |
| 8. B | 18. D | 28. B | 38. B | |
| 9. D | 19. B | 29. D | 39. B | |
| 10. A | 20. D | 30. B | 40. A | |

EXAMINATION SECTION

TEST 1

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

Questions 1-5.

DIRECTIONS: For Questions 1 through 5, inclusive, Column I lists frequently used construction terms. Column II lists some of the building trades. For each item listed in Column I, enter in the appropriate space at the right the capital letter in front of the trade listed in Column II that is MOST closely associated with the item. Each trade may be used more than once or not at all.

<u>COLUMN I</u>	<u>COLUMN II</u>	
1. Bed	A. Plumbing	1. _____
2. Wiping	B. Plastering	2. _____
3. Brown	C. Carpentry	3. _____
4. Key	D. Masonry	4. _____
5. Bridging	E. Painting	5. _____
	F. Steelwork	
	G. Roofing	
6. A cricket would be found		6. _____
A. on a roof		
B. at a structural steel connection		
C. supporting reinforcing steel		
D. over a window		
7. Cutting in is done when		7. _____
A. trimming a stud to size		
B. fitting a bat in a brick wall		
C. painting in tight corners		
D. trimming tallow for a wiped joint		
8. Corbeling results in		8. _____
A. strengthening a concrete column		
B. waterproofing a foundation wall		
C. anchoring a steel girder to a bearing wall		
D. increasing the thickness of a brick wall		

9. Solder used for copper gutters is MOST frequently
 A. 30-70 B. 40-60 C. 50-50 D. 60-40
10. A jack rafter runs from
 A. plate to ridge B. hip to ridge
 C. plate to hip D. plate to plate
11. The one of the following items that is LEAST related to the others is
 A. sill B. joist C. sole D. newel
12. A *fire cut* is made on
 A. timber posts B. rafters
 C. floor joists D. lathing
13. The one of the following items that is LEAST related to the others is
 A. joist hanger B. pintle
 C. bridle iron D. stirrup
14. The PROPER order of nailing sub-flooring and bridging is
 A. top of bridging, bottom of bridging, sub-flooring
 B. bottom of bridging, sub-flooring, top of bridging
 C. top of bridging, sub-flooring, bottom of bridging
 D. bottom of bridging, top of bridging, sub-flooring
15. Sleepers would be found in
 A. walls B. doors C. footings D. floors
16. The one of the following woods that is MOST commonly used for finish flooring is
 A. hemlock B. cypress C. larch D. oak
17. Spacing of studs in a stud partition is MOST frequently _____" o.c.
 A. 12 B. 14 C. 16 D. 18
18. A hollow masonry wall should be used in preference to a solid masonry wall when the characteristic MOST desired is
 A. insulation B. strength
 C. beauty D. durability
19. The arrangement of headers and stretchers in brickwork is known as the
 A. bond B. stringer C. lacing D. stile
20. Of the following, the reason that is LEAST likely to justify pointing brickwork is that pointing _____ the wall.
 A. improves the appearance of
 B. helps prevent cracking of
 C. increases the useful life of
 D. helps waterproof

21. The purpose of flashing is to 21.____
A. keep water out B. speed the set of mortar
C. anchor a cornice D. cover exposed joists
22. The one of the following classes of wall that would LEAST likely be the outside wall of a building is a 22.____
A. spandrel B. fire C. curtain D. parapet
23. Lime is added to mortar USUALLY to 23.____
A. increase the strength of the mortar
B. make the mortar water resistant
C. make it easier to apply the mortar
D. improve the appearance of the mortar joint
24. Efflorescence on the face of a brick wall is BEST removed by scrubbing with a solution of 24.____
A. muriatic acid B. sodium silicate
C. oxalic acid D. calcium oxide
25. The one of the following that is NOT a defect in painting is 25.____
A. chalking B. checking
C. alligatoring D. waning
26. The one of the following ingredients of a paint that would be called the *vehicle* is 26.____
A. white lead B. turpentine
C. linseed oil D. pigment
27. The one of the following that is used as a rust preventative in the prime coat for painting steel is 27.____
A. aluminum B. red lead
C. titanium dioxide D. carbon black
28. *Boxing*, with reference to paint, means 28.____
A. thinning B. mixing C. spreading D. drying
29. When painting new wood, filling of nail holes and cracks with putty should be done 29.____
A. 24 hours before priming
B. immediately before priming
C. after priming and before the second coat
D. after the second coat and before the finish coat
30. The one of the following that is the size of a reinforcing rod MOST commonly used in reinforced concrete construction is 30.____
A. 1 3/4" ϕ B. 18 gauge C. #9 D. 2 ST3
31. Honeycombing in concrete is USUALLY caused by 31.____
A. too plastic a mix B. high fall of concrete
C. mixing too long D. inadequate vibration

32. A concrete mix is indicated as 1:2:3 1/2 mix. The number 2 refers to the proportion by volume of _____ 32. _____
A. water B. cement C. gravel D. sand
33. Specifications for concrete mixes frequently call for the use of dry sand. The reason for this is that the additional water in wet sand will _____ 33. _____
A. make it more difficult to place the concrete
B. decrease the strength of the concrete
C. cause the sand and stone to segregate
D. increase the cost of waterproofing
34. Curing of concrete serves PRIMARILY to _____ 34. _____
A. prevent freezing of the concrete
B. permit early removal of forms
C. delay setting of the concrete
D. prevent evaporation of moisture
35. The MAIN reason that forms for concrete work are oiled is to _____ 35. _____
A. permit easy removal of forms
B. prevent rust marks on the concrete
C. prevent bleeding of water
D. permit easier vibration of the concrete
36. The one of the following terms that is LEAST related to the others is _____ 36. _____
A. 5-ply B. mastic
C. vapor barrier D. flashing
37. Before quicklime can be used for plaster, it must be _____ 37. _____
A. slaked B. burned C. floated D. glazed
38. When a hard plaster is required, as in halls, the one of the following that would MOST likely be used is _____ 38. _____
A. lime B. Keene's cement
C. stucco D. marbling
39. To give plaster a hard finish, hydrated lime is mixed with _____ 39. _____
A. white cement B. linseed oil putty
C. white lead D. plaster of paris
40. The purpose of a ground in plaster work is to _____ 40. _____
A. provide a key for the plaster
B. help the plasterer make an even wall
C. prevent the plasterer's scaffold from slipping
D. hold the loose plaster before it is placed

41. When a lightweight plaster is required, the one of the following fine aggregates that is MOST likely to be used is 41. _____
 A. cinders B. sand
 C. talc D. vermiculite
42. Of the following fireproofing materials, the one which would be MOST frequently used to fireproof steel columns in a fireproof building is 42. _____
 A. sheet rock B. vermiculite plaster
 C. brick D. rock lath
43. The one of the following items that is LEAST related to the others is 43. _____
 A. rock wool B. wall board
 C. sheet rock D. rock lath
44. The first layer of plaster placed in a 3-coat plaster job is called the _____ coat. 44. _____
 A. brown B. scratch C. hard D. white
45. The one of the following symbols that represents a steel section which is MOST similar in appearance to a **W** section is 45. _____
 A. **U** B. **L** C. **I** D. **Z**
46. A plate used to connect two steel angles in a roof truss is known as a(n) 46. _____
 A. angle iron B. gusset plate
 C. bearing plate D. tie bar
47. Steel beams are COMMONLY anchored to brick walls by 47. _____
 A. government anchors B. tie rods
 C. eye bars D. anchor bolts
48. Rivet holes are lined up with a 48. _____
 A. set screw B. ginnywink
 C. drift pin D. trivet
49. A sewer that carries BOTH storm water and sewage is called a _____ sewer. 49. _____
 A. sanitary B. flush C. combined D. mixed
50. A fresh air inlet for a house drainage system would be connected to the system 50. _____
 A. just ahead of the house trap
 B. at each horizontal branch line
 C. at the top of the stack through the roof
 D. at the trap of each water closet
-

6 (#1)

KEY (CORRECT ANSWERS)

- | | | | | |
|-------|-------|-------|-------|-------|
| 1. D | 11. D | 21. A | 31. D | 41. D |
| 2. A | 12. C | 22. B | 32. D | 42. B |
| 3. B | 13. B | 23. C | 33. B | 43. A |
| 4. B | 14. C | 24. A | 34. D | 44. B |
| 5. C | 15. D | 25. D | 35. A | 45. C |
| 6. A | 16. D | 26. C | 36. C | 46. B |
| 7. C | 17. C | 27. B | 37. A | 47. A |
| 8. D | 18. A | 28. B | 38. B | 48. C |
| 9. C | 19. A | 29. C | 39. D | 49. C |
| 10. C | 20. B | 30. C | 40. B | 50. A |

TEST 2

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that **BEST** answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

Questions 1-5.

DIRECTIONS: Column I consists of a list of trades, and Column II lists tools used in those trades. In the space at the right, opposite the number of the trade in Column I, write the letter preceding the tool of the trade in Column II.

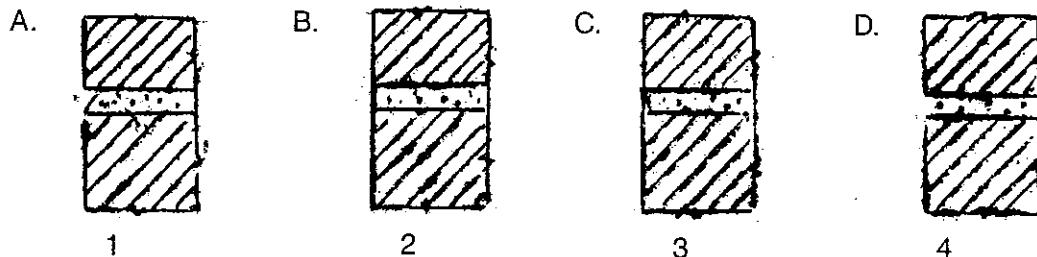
COLUMN I

COLUMN II

1. Carpenter	A. Mop	1. _____
2. Plumber	B. Hawk	2. _____
3. Plasterer	C. Miter box	3. _____
4. Bricklayer	D. Shave-hook	4. _____
5. Roofer	E. Jointing tool	5. _____

Questions 6-7.

DIRECTIONS: Questions 6 and 7 refer to the mortar joints shown below.



6. The mortar joint **MOST** frequently used on common brickwork is 6. _____
- A. 1 B. 2 C. 3 D. 4
7. The mortar joint which would **NOT** usually be made unless an outside scaffold was used is 7. _____
- A. 1 B. 2 C. 3 D. 4
8. A rectangular yard is 50'0" long by 8'6" wide. 8. _____
The area of the yard is, in square feet,
- A. 420.0 B. 422.5 C. 425.0 D. 427.5

9. A rectangular court is 23'0" long by 9'6" wide. The length of the diagonal is MOST NEARLY _____ 9. _____
 A. 24'8" B. 24'10" C. 25'2" D. 25'6"
10. Concrete weighs 150 pounds per cubic foot. A slab of concrete 6'0" long by 3'6" wide by 1'4" thick weighs MOST NEARLY _____ 10. _____
 A. 4150 B. 4200 C. 4250 D. 4300
11. A building 32'0" by 65'0" occupies a lot 60'0" by 110'0". The ratio of building area to lot area is MOST NEARLY _____ 11. _____
 A. 0.32 B. 0.33 C. 0.34 D. 0.35
12. When painting wood, puttying of nail holes and cracks is done _____ 12. _____
 A. before any painting is started
 B. after the priming coat is applied
 C. after the finish coat is applied
 D. at any stage in the painting
13. The process of pouring paint from one container to another in order to mix it is known as _____ 13. _____
 A. bleeding B. boxing C. cutting D. stirring
14. Paint is *thinned* with _____ 14. _____
 A. linseed oil B. turpentine
 C. varnish D. gasoline
15. A wood screw which can be tightened by a wrench is known as a _____ screw. 15. _____
 A. lag B. Philips C. carriage D. monkey
16. To permit easy removal of forms from concrete, the inside surfaces of the forms are often coated with _____ 16. _____
 A. paint B. oil C. water D. asphalt
17. Sixteen pieces of 2 x 4 lumber, each 10'6" long, contain a total of _____ FBM. 17. _____
 A. 110 B. 111 C. 112 D. 113
18. The consistency of concrete is measured with a _____ 18. _____
 A. Vicat needle B. slump cone
 C. hook gage D. bourdon gage
19. End-matched lumber would MOST likely be used for _____ 19. _____
 A. sheathing B. roofing C. flooring D. siding
20. A post or shore is to be placed midway between columns to support the formwork for a reinforced concrete girder. The post should be cut _____ 20. _____
 A. short, so that wedging is required
 B. to exact length

- C. long, so that it will have to be driven into place
D. in two pieces, to permit jackknifing into place
21. Batter boards are set by a 21. _____
A. mason B. plumber C. roofer D. surveyor
22. Of the following terms, all of which refer to tools, the one which is LEAST related to the others is 22. _____
A. back B. box-end C. cross-cut D. rip
23. Of the following tools, the one which is LEAST like the others is 23. _____
A. brace and bit B. draw-knife
C. plans D. spoke-shave
24. When wood splits easily, it is advisable to drill a hole for each nail. The hole for the nail should be _____ the nail. 24. _____
A. larger in diameter than
B. smaller in diameter than
C. exactly the same diameter as
D. less than one-quarter the length of
25. The length of a 10-penny nail, in inches, is 25. _____
A. $2\frac{1}{2}$ B. 3 C. $3\frac{1}{2}$ D. 4
26. The decimal equivalent of $\frac{31}{64}$ of an inch is MOST NEARLY 26. _____
A. 0.45 B. 0.46 C. 0.47 D. 0.48
27. Of the following, the one which is BEST classified as an abrasive is 27. _____
A. a saw B. a chisel C. graphite D. sandpaper
28. Of the following construction materials, the one which would MOST likely be stored directly on the ground is 28. _____
A. brick B. cement C. steel D. wood
29. The strength of brick walls is based upon the type of mortar used. The relative strength of the various types of mortar, in descending order, is 29. _____
A. cement, lime, cement-lime
B. lime, cement-lime, cement
C. cement-lime, cement, lime
D. cement, cement-lime, lime
30. Coating reinforcing rods with oil before placing them in the forms is 30. _____
A. good practice, because it prevents rusting
B. poor practice, because it makes the rods difficult to handle
C. good practice if the forms are oiled
D. poor practice, because it destroys the bond between the concrete and the rods

31. If the mixing plant should break down after one-half the concrete has been mixed for a floor, the BEST thing to do would be to 31. _____
- A. take the concrete out of the forms and throw it away
 - B. spread the available concrete evenly over the floor area
 - C. block off one-half of the floor area and place the available concrete in the blocked-off area
 - D. keep mixing the concrete in the forms with shovels until the plant is repaired
32. Splicing of reinforcing bars is accomplished by 32. _____
- A. using wire ties
 - B. underlapping the bars
 - C. hooking the bars
 - D. using metal clips
33. A sanitary sewer carries 33. _____
- A. storm water only
 - B. sewage only
 - C. sewage and storm water
 - D. the discharge from a sewage plant
34. A neat line 34. _____
- A. is the result of good workmanship
 - B. is used in concrete construction only
 - C. defines an outer limit of a structure
 - D. defines an outer limit of excavation for a structure
35. Continued trowelling of a cement-finish floor for a building is 35. _____
- A. *good* practice, because it provides a smooth floor
 - B. *poor* practice, because it produces a slippery floor
 - C. *poor* practice, because it brings the fines to the surface
 - D. *good* practice, because it insures proper mixing of the cement finish
36. In reinforced concrete form work, a beveled chamfer strip is used to 36. _____
- A. reinforce the outside of the forms
 - B. reinforce the inside of the forms
 - C. seal leaks in the forms
 - D. do none of the foregoing
37. Cracks in lumber due to contraction along annual rings are known as 37. _____
- A. checks
 - B. wanes
 - C. pitch pockets
 - D. dry rot
38. Honeycombing is MOST likely to occur in construction involving 38. _____
- A. steel
 - B. concrete
 - C. wood
 - D. masonry
39. Floor beams are sometimes crowned to 39. _____
- A. provide arch action
 - B. eliminate deflection
 - C. strengthen the floor
 - D. provide a more nearly level floor than would be provided by straight beams

40. In brickwork, a rowlock course consists of _____ 40.____
- A. headers
 - B. stretchers
 - C. bricks laid on edge
 - D. bricks laid so that the longest dimension is vertical
41. The term *bond*, as used in bricklaying, refers to _____ 41.____
- A. structure only
 - B. pattern only
 - C. structure and pattern
 - D. color and finish of individual bricks
42. Concrete is a mixture of cement, _____ 42.____
- A. fine aggregate, coarse aggregate, and water
 - B. sand, and water
 - C. stone, and water
 - D. sand, and stone
43. Consistency, when used in connection with concrete, refers to the _____ 43.____
- A. seven-day strength
 - B. twenty-eight day strength
 - C. initial set before forms are removed
 - D. plasticity of freshly mixed concrete
44. Brick may be used for the facing material in both faced walls and veneered walls. The distinction between the two types of walls relates to _____ 44.____
- A. bonding or lack of bonding between facing and backing
 - B. type of material in facing and backing
 - C. relative thickness of facing and backing
 - D. the type of mortar used
45. A plaster key is NOT formed on _____ lath. _____ 45.____
- A. wood
 - B. metal
 - C. expanded metal
 - D. gypsum
46. Of the following, the BEST tool to use to make a hole in a coping stone is a _____ 46.____
- A. star drill
 - B. coping saw
 - C. pneumatic grinder
 - D. diamond wheel dresser
47. Roughing refers to work performed by a _____ 47.____
- A. carpenter
 - B. bricklayer
 - C. plumber
 - D. roofer
48. A post supporting a handrail is known as a _____ 48.____
- A. tread
 - B. riser
 - C. newel
 - D. bevel

49. The live load on a floor is 40 pounds per square foot. The floor joists are on a 14'0" span and are spaced 2'6" on centers. The maximum live load carried by a joist, in pounds, is MOST NEARLY
- A. 700 B. 933 C. 1167 D. 1400
50. Of the following terms, the one LEAST related to the others is
- A. ground B. purlin
C. rafter D. ridge board

KEY (CORRECT ANSWERS)

- | | | | | |
|-------|-------|-------|-------|-------|
| 1. C | 11. A | 21. D | 31. C | 41. C |
| 2. D | 12. B | 22. B | 32. A | 42. A |
| 3. B | 13. B | 23. A | 33. B | 43. D |
| 4. E | 14. B | 24. B | 34. C | 44. A |
| 5. A | 15. A | 25. B | 35. C | 45. D |
| 6. C | 16. B | 26. D | 36. D | 46. A |
| 7. A | 17. C | 27. D | 37. A | 47. C |
| 8. C | 18. B | 28. A | 38. B | 48. C |
| 9. B | 19. C | 29. D | 39. D | 49. D |
| 10. B | 20. A | 30. D | 40. C | 50. A |

EXAMINATION SECTION

TEST 1

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. The specification states: *The value of each change order shall be computed separately by cost of labor and materials, plus equipment allowance, plus overhead and profit.* The MOST probable value of overhead and profit is _____% of the cost of labor and materials plus equipment allowance. 1. _____
A. 5 B. 15 C. 34 D. 55
2. In the specifications is an item: *Equipment Allowance: Shall include rental of necessary equipment plus 9% of this rental.* According to the above specification, if a piece of equipment rents for \$35 per day, Equipment Allowance for this equipment rented for 11 days is MOST NEARLY 2. _____
A. \$484.00 B. \$378.42 C. \$385.00 D. \$419.65
3. A supplier quotes a list price of \$172.00 less 15 and 10 percent for twelve tools. The ACTUAL cost for these twelve tools is MOST NEARLY 3. _____
A. \$146 B. \$132 C. \$129 D. \$112
4. Which one of the following is the PRIMARY object in drawing up a set of specifications for materials to be purchased? 4. _____
A. Control of quality
B. Outline of intended use
C. Establishment of standard sizes
D. Location and method of inspection
5. In order to avoid disputes over payments for extra work in a contract for construction, the BEST procedure to follow would be to 5. _____
A. have contractor submit work progress reports daily
B. insert a special clause in the contract specifications
C. have a representative on the job at all times to verify conditions
D. allocate a certain percentage of the cost of the job to cover such expenses
6. You wish to order sponges in the most economical manner. Keeping in mind that large sponges can be cut up into many smaller sizes, the one of the following that has the LEAST cost per cubic inch of sponge is _____ sponges @ _____. 6. _____
A. 2" x 4" x 6"; \$.24 B. 4" x 8" x 12"; \$1.44
C. 4" x 6" x 36"; \$4.80 D. 6" x 8" x 32"; \$9.60

7. The cost of a certain job is broken down as follows: 7. _____
- | | |
|---------------------|-------|
| Materials | \$375 |
| Rental of equipment | 120 |
| Labor | 315 |
- The percentage of the total cost of the job that can be charged to materials is MOST NEARLY _____%.
- A. 40 B. 42 C. 44 D. 46
8. Partial payments to outside contractors are USUALLY based on the 8. _____
- A. breakdown estimate submitted after the contract was signed
 B. actual cost of labor and material plus overhead and profit
 C. estimate of work completed which is generally submitted periodically
 D. estimate of material delivered to the job
9. Building contracts usually require that estimates for changes made in the field be submitted for approval before the work can start. 9. _____
 The MAIN reason for this requirement is to
- A. make sure that the contractor understands the change
 B. discourage such changes
 C. keep the contractor honest
 D. enable the department to control its expenses
10. If the cost of a broom went up from \$4.00 to \$6.00, the percent INCREASE in the original cost is 10. _____
- A. 20 B. 25 C. 33 1/3 D. 50
11. The AVERAGE of the numbers 3, 5, 7, 8, 12 is 11. _____
- A. 5 B. 6 C. 7 D. 8
12. The cost of 100 bags of cotton cleaning cloths, 89 pounds per bag, at 7 cents per pound is 12. _____
- A. \$549.35 B. \$623.00 C. \$700.00 D. \$890.00
13. If 5 1/2 bags of sweeping compound cost \$55.00, then 6 1/2 bags would cost 13. _____
- A. \$60.00 B. \$62.50 C. \$65.00 D. \$67.00
14. The cost of cleaning supplies in a project averaged \$330.00 a month during the first 8 months of the year. 14. _____
 How much can be spent each month for the last four months if the total amount that can be spent for cleaning supplies for the year is \$3,880?
- A. \$124 B. \$220 C. \$310 D. \$330
15. The cost of rawl plugs is \$2.75 per gross. The cost of 2,448 rawl plugs is 15. _____
- A. \$46.75 B. \$47.25 C. \$47.75 D. \$48.25

16. A caretaker received \$70.00 for having worked from Monday through Friday, 9 A.M. to 5 P.M. with one hour a day for lunch. 16. _____
The number of hours the caretaker would have to work to earn \$12.00 is
A. 10 B. 6
C. 70 divided by 12 D. 70 minus 12
17. Assume that an employee is paid at the rate of \$5.43 per hour with time and a half for overtime past 40 hours in a week. 17. _____
If he works 43 hours in a week, his gross weekly pay is
A. \$217.20 B. \$219.20 C. \$229.59 D. \$241.64
18. Kerosene costs 36 cents a quart. 18. _____
At that rate, two gallons would cost
A. \$1.44 B. \$2.16 C. \$2.88 D. \$3.60

Questions 19-21.

DIRECTIONS: Questions 19 through 21 are to be answered on the basis of the following table.

	Man Days Borough 1		Man Days Borough 2		Man Days Borough 3		Man Days Borough 4	
	Oct.	Nov.	Oct.	Nov.	Oct.	Nov.	Oct.	Nov.
Carpenter	70	100	35	180	145	205	120	85
Plumber	95	135	195	100	70	130	135	80
House Painter	90	90	120	80	85	85	95	195
Electrician	120	110	135	155	120	95	70	205
Blacksmith	125	145	60	180	205	145	80	125

19. In accordance with the above table, if the average daily pay of the five trades listed above is \$47.50, the approximate labor cost of work done by the five trades during the month of October for Borough 1 is MOST NEARLY 19. _____
A. \$22,800 B. \$23,450 C. \$23,750 D. \$26,125
20. In accordance with the above table, the Borough which MOST NEARLY made up 22.4% of the total plumbing work force for the month of November is Borough 20. _____
A. 1 B. 2 C. 3 D. 4
21. In accordance with the above table, the average man days per month per Borough spent on electrical work for all Boroughs combined is MOST NEARLY 21. _____
A. 120 B. 126 C. 130 D. 136
22. When preparing an estimate for a certain repair job, you determine that \$125 worth of materials and 220 man-hours are required to complete the job. 22. _____
If your man-hour cost is \$5.25 per hour, the TOTAL cost of this repair job is
A. \$1,030 B. \$1,155 C. \$1,280 D. \$1,405

23. Assume that in determining the total cost of a repair job, a 15% shop cost is to be added to the costs of material and labor. For a repair job which cost \$200 in materials and \$600 in labor, the shop cost is
- A. \$30 B. \$60 C. \$90 D. \$120 23. _____
24. Assume that in quantity purchases, the city receives a discount of $33 \frac{1}{3}\%$. If a one gallon can of paint retails at \$5.33 per gallon, the cost of 375 gallons of this paint is MOST NEARLY
- A. \$1,332.50 B. \$1,332.75 C. \$1,333.00 D. \$1,333.25 24. _____
25. Assume that eight barrels of cement together weigh a total of 3004 lbs. and 12 oz. If there are four bags of cement per barrel, then the weight of one bag of cement is MOST NEARLY _____ lbs.
- A. 93.1 B. 93.5 C. 93.9 D. 94.3 25. _____
26. Lumber is usually sold by the board foot, and a board foot is defined as a board one foot square and one inch thick. If the price of one board foot of lumber is 18 cents and you need 20 feet of lumber 6 inches wide and 1 inch thick, the cost of the 20 feet of lumber is
- A. \$1.80 B. \$2.40 C. \$3.60 D. \$4.80 26. _____
27. Assume that a trench is 42" wide, 5' deep, and 100' long. If the unit price of excavating the trench is \$35 per cubic yard, the cost of excavating the trench is MOST NEARLY
- A. \$2,275 B. \$5,110 C. \$7,000 D. \$21,000 27. _____
28. No single activity has a very large effect on the final price of the complete housing structure and, therefore, the total cost is not affected appreciably by the price policy of any component. From the above statement, you may conclude that
- A. we cannot hope for substantial reductions in housing costs
 B. the builder must assume responsibility for the high cost of construction
 C. a 10% reduction in the cost of materials would result in much less than a 10% reduction in the cost of housing
 D. federal government financing would reduce the city's cost of public housing 28. _____
29. Four board feet of lumber, listed at \$350 per M, will cost
- A. \$3.50 B. \$1.40 C. \$1.80 D. \$4.00 29. _____
30. The cost of material is approximately $\frac{3}{8}$ ths of the total cost of a certain job. If the total cost of the job is \$127.56, then the cost of material is MOST NEARLY
- A. \$47.83 B. \$48.24 C. \$48.65 D. \$49.06 30. _____
31. It takes four men six days to do a certain job. Working at the same speed, the number of days it will take three men to do this job is
- A. 7 B. 8 C. 9 D. 10 31. _____

32. A contractor on a large construction project USUALLY receives partial payments based on 32. _____
- estimates of completed work
 - actual cost of materials delivered and work completed
 - estimates of material delivered and not paid for by the contractor
 - the breakdown estimate submitted after the contract was signed and prorated over the estimated duration of the contract
33. In estimating the cost of a reinforced concrete structure, the contractor would be LEAST concerned with 33. _____
- volume of concrete
 - surface area of forms
 - pounds of reinforcing steel
 - type of coarse aggregate
34. Assume that an employee is paid at the rate of \$6.25 per hour with time and a half for overtime past 40 hours in a week. 34. _____
If she works 45 hours in a week, her gross weekly pay is
- \$285.49
 - \$296.88
 - \$301.44
 - \$325.49
35. Cleaning fluid costs \$1.19 a quart. 35. _____
If there is a 10% discount for purchases over 5 gallons, how much will 8 gallons cost?
- \$34.28
 - \$38.08
 - \$42.28
 - \$43.43

KEY (CORRECT ANSWERS)


- | | | |
|-------|-------|-------|
| 1. B | 11. C | 26. A |
| 2. D | 12. B | 27. A |
| 3. B | 13. C | 28. C |
| 4. A | 14. C | 29. B |
| 5. C | 15. A | 30. A |
| 6. B | 16. B | 31. B |
| 7. D | 17. D | 32. A |
| 8. C | 18. C | 33. D |
| 9. D | 19. C | 34. B |
| 10. D | 20. B | 35. A |
| | 21. B | |
| | 22. C | |
| | 23. D | |
| | 24. A | |
| | 25. C | |
-

TEST 2

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that **BEST** answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. When windows are mounted side by side, the vertical piece between them is called the _____
 A. muntin B. casement C. sash D. mullion

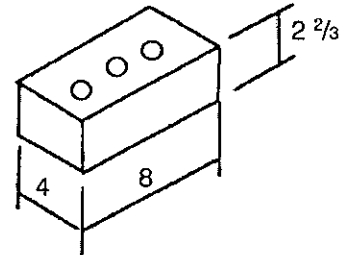
2. Approximately how many pounds of 16d nails would be required for 1,000 square feet of floor framing area? _____
 A. 4-5 B. 7-8 C. 8-10 D. 10-12

3. What is represented by the electrical symbol shown at the right? _____

 A. Transformer B. Buzzer
 C. Telephone D. Bell

4. Which of the following structures would typically require a relatively higher grade of lumber? _____
 A. Vertical stud B. Joist
 C. Column D. Mud sill

5. A dump truck with a capacity of 10-12 cubic yards must load, drive, dump, and reposition itself over a 1-mile haul distance. _____
 What average amount of time should be estimated for this sequence?
 A. 15 minutes B. 30 minutes
 C. 1 hour D. 2 hours

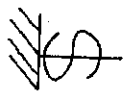
6. The stripping of forms that are to be reused should be charged as _____
 A. common labor B. masonry labor
 C. carpentry labor D. material credit

7. What type of brick masonry unit is represented by the drawing shown at the right? _____

 A. Modular
 B. Norwegian
 C. 3 core
 D. Economy

8. Which of the following would be a typical thickness of a crushed-rock base course for an area of asphalt paving? _____
 A. 2" B. 5" C. 7" D. 10"

9. Which of the following wood floor materials would be MOST expensive to install? 9. _____
 A. Unfinished plank B. Walnut parquet
 C. Maple strip D. Oak parquet
10. When calculating the air-conditioning needs for a building, a loss factor of _____ should be used for the exposure of walls to common heated surfaces. 10. _____
 A. 2.0 B. 3.5 C. 6.0 D. 7.5
11. Approximately how many linear feet of moldings, door and window trim, handrails, or similar parts can a carpenter install in a typical work day? 11. _____
 A. 100 B. 250 C. 400 D. 500
12. Which of the following constructions is NOT typically found in bathroom lavatories? 12. _____
 A. Enameled pressed steel B. Cast iron
 C. Cast ceramic D. Stainless steel
13. What size reinforcing bar is typically used for masonry walls? 13. _____
 A. 3 B. 4 C. 7 D. 9
14. Which of the following would NOT be a typical source for a cost-per-square-foot estimate? 14. _____
 A. Architect B. Engineer
 C. Appraiser D. Building contractor
15. Approximately how many stair treads with risers can a carpenter install in an average work day? 15. _____
 A. 5-8 B. 10-12 C. 15-18 D. 21-25
16. Each of the following materials is commonly used as sheet metal flashing for roof waterproofing EXCEPT 16. _____
 A. lead B. galvanized steel
 C. copper D. zinc
17. The MOST commonly used type of metal lath for wall support is 17. _____
 A. self-furring B. flat rib
 C. flat diamond mesh D. 3/8" rib
18. Approximately how long will it take to install a non-mortised lockset? 18. _____
 A. 15 minutes B. 30 minutes
 C. 1 hour D. 2 hours
19. What is represented by the architectural symbol shown at the right? 19. _____
 A. Cut stone B. Concrete block
 C. Rubble stone D. Brick
20. What type of nails are typically used for installing floor sheathing? 20. _____
 A. 4d B. 8d C. 12d D. 16d



21. Each of the following is considered *finish* electrical work EXCEPT
- A. outlet boxes
 - B. light fixtures
 - C. connection of fixtures to wiring
 - D. switches
22. Which component of cost estimating typically presents the GREATEST difficulty?
- A. Materials
 - B. Overhead
 - C. Profit
 - D. Labor
23. Approximately how many hours will it take to install and caulk a typical sliding shower door assembly?
- A. 2
 - B. 4
 - C. 6
 - D. 8
24. What is represented by the electrical symbol shown at the right?
- 
- A. Single pole switch
 - B. Lock or key switch
 - C. Service weather head
 - D. Main switch
25. Approximately how many exterior square feet can one painter cover, applying a primer coat and two coats of finish paint, in an average work day?
- A. 100
 - B. 250
 - C. 350
 - D. 500



KEY (CORRECT ANSWERS)


- | | |
|-------|-------|
| 1. D | 11. B |
| 2. B | 12. D |
| 3. C | 13. B |
| 4. B | 14. C |
| 5. B | 15. C |
| 6. C | 16. A |
| 7. A | 17. C |
| 8. B | 18. B |
| 9. B | 19. A |
| 10. B | 20. B |


21. A
22. D
23. B
24. A
25. D

TEST 3

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. Irregular shapes and narrow lites typically reduce the rate of glass installation by _____%.
A. 10-20 B. 25-35 C. 30-50 D. 55-75 1. _____
2. What is represented by the electrical symbol shown at the right?
 2. _____
A. Exposed wiring B. Fusible element
C. Three-way switch D. Circuit breaker
3. Approximately how many square feet of siding can be installed by a crew in a typical work day?
A. 250 B. 500 C. 750 D. 1,000 3. _____
4. What is the construction term for hinges used on doors?
A. Gables B. Butts C. Hips D. Plates 4. _____
5. Floor joists are typically spaced about _____ apart.
A. 16" B. 2 feet C. 3 feet D. 4 feet 5. _____
6. Which of the following paving materials is generally MOST expensive?
A. Brick on sand bed B. Random flagstone
C. Asphalt D. Concrete 6. _____
7. Approximately how long should it take a 2-person crew to install floor joists for a 100 square-foot area of floor space?
A. 30 minutes B. 1 hour
C. 3 hours D. 1 work day 7. _____
8. A _____ is represented by the mechanical symbol shown at the right.
 8. _____
A. pressure-reducing valve B. motor-operated valve
C. lock and shield valve D. globe valve
9. On average, labor costs for a job will be about _____% of the total job cost.
A. 15 B. 35 C. 55 D. 85 9. _____
10. Most exterior paint averages a coverage of about _____ square feet per gallon.
A. 100 B. 250 C. 400 D. 550 10. _____

11. What type of window includes two sashes which slide vertically? 11. _____
 A. Double-hung B. Screen
 C. Casement D. Sliding
12. Approximately how many linear feet of drywall tape can be applied during an average work day? 12. _____
 A. 250 B. 400 C. 750 D. 1,000
13. What is used to join lengths of copper pipe? 13. _____
 A. Molten solder
 B. Threaded ends and sealer
 C. Nipples
 D. Lead-and-oakum seal
14. Typically, one gallon of prepared wallpaper paste will supply adhesive for _____ full rolls of wall covering. 14. _____
 A. 8 B. 12 C. 24 D. 36
15. What is represented by the electrical symbol shown at the right? 15. _____

 A. Range outlet
 B. Wall bracket light fixture
 C. Split-wired receptacle
 D. Special purpose outlet
16. What size is MOST wire used in residential work? 16. _____
 A. 6 B. 8 C. 12 D. 16
17. Most fire codes require fire-resistant floor underneath fireplace units which extends to at least _____ inches beyond the unit. 17. _____
 A. 6 B. 12 C. 18 D. 24
18. If a building is constructed without a basement, _____ are typically used as footings. 18. _____
 A. joists B. staked caissons
 C. grade beams D. mud sills
19. What is the MOST commonly used size range for flashing and gutter sheet metal? 19. _____
 A. 8-12 B. 14-18 C. 22-26 D. 24-30
20. Approximately how many square feet of interior wall space can one painter, using a brush, cover in an hour? 20. _____
 A. 25-50 B. 100 C. 175-200 D. 250
21. Which of the following downspout materials would be MOST expensive? 21. _____
 A. Copper B. Aluminum
 C. Zinc D. Stainless steel

22. What is represented by the mechanical symbol shown at the right?  22. _____
- A. Expansion valve
C. Shower
- B. Floor drain
D. Scale trap
23. Approximately how much lead (pounds) is required per joint in one sewer line lead-and-oakum seal? 23. _____
- A. 1/4 B. 1/2 C. 1 1/2 D. 3
24. Which of the following caulking materials is MOST expensive? 24. _____
- A. Neoprene
C. Polyurethane
- B. Butyl
D. Latex
25. The assembly inside a tank toilet that controls the water supply is the 25. _____
- A. P trap
C. gating
- B. bell-and-spigot
D. ball cock

KEY (CORRECT ANSWERS)

- | | |
|-------|-------|
| 1. C | 11. A |
| 2. B | 12. A |
| 3. A | 13. A |
| 4. B | 14. B |
| 5. A | 15. C |
| 6. D | 16. C |
| 7. C | 17. B |
| 8. D | 18. C |
| 9. A | 19. C |
| 10. C | 20. B |
| 21. A | |
| 22. A | |
| 23. A | |
| 24. B | |
| 25. C | |
-

WORK SCHEDULING

EXAMINATION SECTION TEST 1

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

Questions 1-6.

DIRECTIONS: Questions 1 through 6 are to be answered SOLELY on the basis of the information given in the ELEVATOR OPERATORS' WORK SCHEDULE shown below.

ELEVATOR OPERATORS' WORK SCHEDULE				
<u>Operator</u>	<u>Hours of Work</u>	<u>A.M. Relief Period</u>	<u>Lunch Hour</u>	<u>P.M. Relief Period</u>
Anderson	8:30-4:30	10:20-10:30	12:00-1:00	2:20-2:30
Carter	8:00-4:00	10:10-10:20	11:45-12:45	2:30-2:40
Daniels	9:00-5:00	10:20-10:30	12:30-1:30	3:15-3:25
Grand	9:30-5:30	11:30-11:40	1:00-2:00	4:05-4:15
Jones	7:45-3:45	9:45-9:55	11:30-12:30	2:05-2:15
Lewis	9:45-5:45	11:40-11:50	1:15-2:15	4:20-4:30
Nance	8:45-4:45	10:50-11:00	12:30-1:30	3:05-3:15
Perkins	8:00-4:00	10:00-10:10	12:00-1:00	2:40-2:50
Russo	7:45-3:45	9:30-9:40	11:30-12:30	2:10-2:20
Smith	9:45-5:45	11:45-11:55	1:15-2:15	4:05-4:15

- The two operators who are on P.M. relief at the SAME time are 1. _____
 - Anderson and Daniels
 - Carter and Perkins
 - Jones and Russo
 - Grand and Smith
- Of the following, the two operators who have the SAME lunch hour are 2. _____
 - Anderson and Perkins
 - Daniels and Russo
 - Grand and Smith
 - Nance and Russo
- At 12:15, the number of operators on their lunch hour is 3. _____
 - 3
 - 4
 - 5
 - 6
- The operator who has an A.M. relief period right after Perkins and a P.M. relief period right before Perkins is 4. _____
 - Russo
 - Nance
 - Daniels
 - Carter
- The number of operators who are scheduled to be working at 4:40 is 5. _____
 - 5
 - 6
 - 7
 - 8

6. According to the schedule, it is MOST correct to say that
- A. no operator has a relief period during the time that another operator has a lunch hour
 - B. each operator has to wait an identical amount of time between the end of lunch and the beginning of P.M. relief period
 - C. no operator has a relief period before 9:45 or after 4:00
 - D. each operator is allowed a total of 1 hour and 20 minutes for lunch hour and relief periods

6. _____

KEY (CORRECT ANSWERS)

- 1. D
 - 2. A
 - 3. C
 - 4. D
 - 5. A
 - 6. D
-

TEST 2

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

Questions 1-7.

DIRECTIONS: Questions 1 through 7 are to be answered SOLELY on the basis of the time sheet and instructions given below.

The following time sheet indicates the times that seven laundry workers arrived and left each day for the week of August 23. The times they arrived for work are shown under the heading IN, and the times they left are shown under the heading OUT. The letter (P) indicates time which was used for personal business. Time used for this purpose is charged to annual leave. Lunch time is one-half hour from noon to 12:30 P.M. and is not accounted for on this time record.

The employees on this shift are scheduled to work from 8:00 A.M. to 4:00 P.M. Lateness is charged to annual leave. Reporting after 8:00 A.M. is considered late.

	MON.		TUES.		WED.		THURS.		FRI.	
	AM IN	PM OUT	AM IN	PM OUT	AM IN	PM OUT	AM IN	PM OUT	AM IN	PM OUT
Baxter	7:50	4:01	7:49	4:07	8:00	4:07	8:20	4:00	7:42	4:03
Gardner	8:02	4:00	8:20	4:00	8:05	3:30(P)	8:00	4:03	8:00	4:07
Clements	8:00	4:04	8:03	4:01	7:59	4:00	7:54	4:06	7:59	4:00
Tompkins	7:56	4:00	Annual leave		8:00	4:07	7:59	4:00	8:00	4:01
Wagner	8:04	4:03	7:40	4:00	7:53	4:04	8:00	4:09	7:53	4:00
Patterson	8:00	2:30(P)	8:15	4:04	Sick leave		7:45	4:00	7:59	4:04
Cunningham	7:43	4:02	7:50	4:00	7:59	4:02	8:00	4:10	8:00	4:00

1. Which one of the following laundry workers did NOT have any time charged to annual leave or sick leave during the week? 1. _____
 A. Gardner B. Clements C. Tompkins D. Cunningham

2. On which day did ALL the laundry workers arrive on time? 2. _____
 A. Monday B. Wednesday C. Thursday D. Friday

3. Which of the following laundry workers used time to take care of personal business? 3. _____
 A. Baxter and Clements B. Patterson and Cunningham
 C. Gardner and Patterson D. Wagner and Tompkins

4. How many laundry workers were late on Monday? 4. _____
 A. 1 B. 2 C. 3 D. 4

5. Which one of the following laundry workers arrived late on three of the five days? 5. _____
 A. Baxter B. Gardner C. Wagner D. Patterson

2 (#2)

6. The percentage of laundry workers reporting to work late on Tuesday is MOST NEARLY
A. 15% B. 25% C. 45% D. 50% 6. _____
7. The percentage of laundry workers that were absent for an entire day during the week is MOST NEARLY
A. 6% B. 9% C. 15% D. 30% 7. _____

KEY (CORRECT ANSWERS)

1. D
2. D
3. C
4. B
5. B
6. C
7. D
-

TEST 3

Questions 1-9.

DIRECTIONS: Questions 1 through 9 are to be answered SOLELY on the basis of the following information and timesheet given below.

The following is a foreman's timesheet for his crew for one week. The hours worked each day or the reason the man was off on that day are shown on the sheet. *R* means rest day. *A* means annual leave. *S* means sick leave. Where a man worked only part of a day, both the number of hours worked and the number of hours taken off are entered. The reason for absence is entered in parentheses next to the number of hours taken off.

Name	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Smith	R	R	7	7	7	3 4(A)	7
Jones	R	7	7	7	7	7	R
Green	R	R	7	7	S	S	S
White	R	R	7	7	A	7	7
Doe	7	7	7	7	7	R	R
Brown	R	R	A	7	7	7	7
Black	R	R	S	7	7	7	7
Reed	R	R	7	7	7	7	S
Roe	R	R	A	7	7	7	7
Lane	7	R	R	7	7	A	S

1. The caretaker who worked EXACTLY 21 hours during the week is 1. _____
 A. Lane B. Roe C. Smith D. White
2. The TOTAL number of hours worked by all caretakers during the week is 2. _____
 A. 268 B. 276 C. 280 D. 288
3. The two days of the week on which MOST caretakers were off are 3. _____
 A. Thursday and Friday B. Friday and Saturday
 C. Saturday and Sunday D. Sunday and Monday
4. The day on which three caretakers were off on sick leave is 4. _____
 A. Monday B. Friday C. Saturday D. Sunday
5. The two workers who took LEAST time off during the week are 5. _____
 A. Doe and Reed B. Jones and Doe
 C. Reed and Smith D. Smith and Jones
6. The caretaker who worked the LEAST number of hours during the week is 6. _____
 A. Brown B. Green C. Lane D. Roe
7. The caretakers who did NOT work on Thursday are 7. _____
 A. Doe, White, and Smith
 B. Green, Doe, and Lane
 C. Green, Doe, and Smith
 D. Green, Lane, and Smith

2 (#3)

8. The day on which one caretaker worked ONLY 3 hours is
A. Friday B. Saturday C. Thursday D. Wednesday
9. The day on which ALL caretakers worked is
A. Monday B. Thursday C. Tuesday D. Wednesday

8. _____

9. _____

KEY (CORRECT ANSWERS)

1. A
2. B
3. C
4. B
5. B
6. B
7. B
8. C
9. C
-

TEST 4

Questions 1-6.

DIRECTIONS: Questions 1 through 6 are to be answered SOLELY on the basis of the table below which shows the initial requests made by staff for vacation. It is to be used with the RULES AND GUIDELINES to make the decisions and judgments called for in each of the questions.

VACATION REQUESTS FOR THE ONE YEAR PERIOD FROM MAY 1, YEAR X THROUGH APRIL 30, YEAR Y				
Name	Work Assignment	Date Appointed	Accumulated Annual Leave Days	Vacation Periods Requested
DeMarco	MVO	Mar. 2003	25	May 3-21; Oct. 25-Nov. 5
Moore	Dispatcher	Dec. 1997	32	May 24-June 4; July 12-16
Kingston	MVO	Apr. 2007	28	May 24-June 11; Feb. 7-25
Green	MVO	June 2006	26	June 7-18; Sept. 6-24
Robinson	MVO	July 2008	30	June 28-July 9; Nov. 15-26
Reilly	MVO	Oct. 2009	23	July 5-9; Jan. 31-Mar. 3
Stevens	MVO	Sept. 1996	31	July 5-23; Oct. 4-29
Costello	MVO	Sept. 1998	31	July 5-30; Oct. 4-22
Maloney	Dispatcher	Aug. 1992	35	July 5-Aug. 6; Nov. 1-5
Hughes	Director	Feb. 1990	38	July 26-Sept. 3
Lord	MVO	Jan. 2010	20	Aug. 9-27; Feb. 7-25
Diaz	MVO	Dec. 2009	28	Aug. 9-Sept. 10
Krimsky	MVO	May 2006	22	Oct. 18-22; Nov. 22-Dec. 10

RULES AND GUIDELINES

1. The two Dispatchers cannot be on vacation at the same time, nor can a Dispatcher be on vacation at the same time as the Director.
2. For the period June 1 through September 30, not more than three MVO's can be on vacation at the same time.
3. For the period October 1 through May 31, not more than two MVO's at a time can be on vacation.
4. In cases where the same vacation time is requested by too many employees for all of them to be given the time under the rules, the requests of those who have worked the longest will be granted.
5. No employee may take more leave days than the number of annual leave days accumulated and shown in the table.
6. All vacation periods shown in the table and described in the questions below begin on a Monday and end on a Friday.
7. Employees work a five-day week (Monday through Friday). They are off weekends and holidays with no charges to leave balances. When a holiday falls on a Saturday or Sunday, employees are given the following Monday off without charge to annual leave.

8. Holidays:	May 31	October 25	January 1
	July 4	November 2	February 12
	September 6	November 25	February 21
	October 11	December 25	February 21

9. An employee shall be given any part of his initial requests that is permissible under the above rules and shall have first right to it despite any further adjustment of schedule.

-
1. Until adjustments in the vacation schedule can be made, the vacation dates that can be approved for Krinsky are 1. _____
- A. Oct. 18-22; Nov. 22-Dec. 10
 - B. Oct. 18-22; Nov. 29-Dec. 10
 - C. Oct. 18-22 *only*
 - D. Nov. 22-Dec. 10 *only*
2. Until adjustments in the vacation schedule can be made, the vacation dates that can be approved for Maloney are 2. _____
- A. July 5-Aug. 6; Nov. 1-5
 - B. July 5-23; Nov. 1-5
 - C. July 5-9; Nov. 1-5
 - D. Nov. 1-5 *only*
3. According to the table, Lord wants a vacation in August and another in February. Until adjustments in the vacation schedule can be made, he can be allowed to take _____ of the August vacation and _____ of the February vacation. 3. _____
- A. all; none
 - B. all; almost half
 - C. almost all; almost half
 - D. almost half; all
4. Costello cannot be given all the vacation he has requested because 4. _____
- A. the MVO's who have more seniority than he has have requested time he wishes
 - B. he does not have enough accumulated annual leave
 - C. a dispatcher is applying for vacation at the same time as Costello
 - D. there are five people who want vacation in July
5. According to the table, how many leave days will DeMarco be charged for his vacation from October 25 through November 5? 5. _____
- A. 10
 - B. 9
 - C. 8
 - D. 7
6. How many leave days will Moore use if he uses the requested vacation allowable to him under the rules? 6. _____
- A. 9
 - B. 10
 - C. 14
 - D. 15
-

KEY (CORRECT ANSWERS)

1. D
 2. B
 3. A
 4. B
 5. C
 6. A
-

TEST 5

Questions 1-8.

DIRECTIONS: Questions 1 through 8 are to be answered SOLELY on the basis of Charts I, II, III, and IV. Assume that you are the supervisor of Operators R, S, T, U, V, W, and X, and it is your responsibility to schedule their lunch hours.

The charts each represent a possible scheduling of lunch hours during a lunch period from 11:30 - 2:00. An operator-hour is one hour of time spent by one operator. Each box on the chart represents one half-hour. The boxes marked L represent the time when each operator is scheduled to have her lunch hour. For example, in Chart I, next to Operator R, the boxes for 11:30 - 12:00 and 12:00 - 12:30 are marked L. This means that Operator R is scheduled to have her lunch hour from 11:30 to 12:30.

I

	11:30-12:00	12:00-12:30	12:30-1:00	1:00-1:30	1:30-2:00
R	L	L			
S		L	L		
T		L	L		
U			L	L	
V			L	T	
W				L	L
X				L	L

II

	11:30-12:00	12:00-12:30	12:30-1:00	1:00-1:30	1:30-2:00
R				L	L
S		L	L		
T	L	L			
U		L	L		
V				L	L
W				L	L
X		L	L		

III

	11:30-12:00	12:00-12:30	12:30-1:00	1:00-1:30	1:30-2:00
R	L	L			
S				L	L
T	L	L			
U			L	L	
V	L	L			
W			L	L	
X			L	L	

IV

	11:30-12:00	12:00-12:30	12:30-1:00	1:00-1:30	1:30-2:00
R	L	L			
S	L	L			
T		L			
U			L	L	
V				L	L
W				L	L
X			L	L	

1. If, under the schedule represented in Chart II, Operator R has her lunch hour changed to 12:30-1:30, that leaves how many operator-hours of phone coverage from 1:00-2:00?

A. 2 B. 2 1/2 C. 3 D. 4 1/2
2. If Operator S asks you whether she and Operator T may have the same lunch hour, you could accommodate her by using the schedule in Chart

A. I B. II C. III D. IV
3. From past experience you know that the part of the lunch period when the phones are busiest is from 12:30-1:30. Which chart shows the BEST phone coverage from 12:30 to 1:30?

A. I B. II C. III D. IV
4. At least three operators have the same lunch hour according to Chart(s)

A. II and III B. II and IV

C. III only D. IV only

1. _____

2. _____

3. _____

4. _____

5. Which chart would provide the POOREST phone coverage during the period 12:00-1:30, based on total number of operator-hours from 12:00 to 1:30? 5. _____
A. I B. II C. III D. IV
6. Which chart would make it possible for U, W, and X to have the same lunch hour? 6. _____
A. I B. II C. III D. IV
7. The portion of the lunch period during which the telephones are least busy is 11:30-12:30. 7. _____
Which chart is MOST likely to have been designed with that fact in mind?
A. I B. II C. III D. IV
8. Assume that you have decided to use Chart IV to schedule your operators' lunch hours on a specific day. Operator T asks you if she can have her lunch hour changed to 1:00-2:00. 8. _____
If you grant her request, how many operators will be working during the period 12:00 to 12:30?
A. 1 B. 2 C. 4 D. 5

KEY (CORRECT ANSWERS)

1. D
2. A
3. B
4. A
5. A
6. C
7. C
8. D
-

TEST 6

Questions 1-13.

DIRECTIONS: Questions 1 through 13 consist of a statement. You are to indicate whether the statement is TRUE (T) or FALSE (F). *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.* Questions 1 through 13 are to be answered SOLELY on the basis of the information given in the table below.

DEPARTMENT OF FERRIES ATTENDANTS WORK ASSIGNMENT - JULY 2003					
Name	Year Employed	Ferry Assigned	Hours of Work	Lunch Period	Days Off
Adams	1999	Hudson	7 AM - 3 PM	11-12	Fri. and Sat.
Baker	1992	Monroe	7 AM - 3 PM	11-12	Sun. and Mon.
Gunn	1995	Troy	8 AM - 4 PM	12-1	Fri. and Sat.
Hahn	1989	Erie	9 AM - 5 PM	1-2	Sat. and Sun.
King	1998	Albany	7 AM - 3 PM	11-12	Sun. and Mon.
Nash	1993	Hudson	11 AM - 7 PM	3-4	Sun. and Mon.
Olive	2003	Fulton	10 AM - 6 PM	2-3	Sat. and Sun.
Queen	2002	Albany	11 AM - 7 PM	3-4	Fri. and Sat.
Rose	1990	Troy	11 AM - 7 PM	3-4	Sun. and Mon.
Smith	1991	Monroe	10 AM - 6 PM	2-3	Fri. and Sat.

1. The chart shows that there are only five (5) ferries being used.
2. The attendant who has been working the LONGEST time is Rose.
3. The Troy has one more attendant assigned to it than the Erie.
4. Two (2) attendants are assigned to work from 10 P.M. to 6 A.M.
5. According to the chart, no more than one attendant was hired in any year.
6. The NEWEST employee is Olive.
7. There are as many attendants on the 7 to 3 shift as on the 11 to 7 shift.
8. MOST of the attendants have their lunch either between 12 and 1 or 2 and 3.
9. All the employees work four (4) hours before they go to lunch.
10. On the Hudson, Adams goes to lunch when Nash reports to work.
11. All the attendants who work on the 7 to 3 shift are off on Saturday and Sunday.
12. All the attendants have either a Saturday or Sunday as one of their days off.
13. At least two (2) attendants are assigned to each ferry.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____

KEY (CORRECT ANSWERS)

- | | | |
|------|-------|-------|
| 1. F | 6. T | 11. F |
| 2. F | 7. T | 12. T |
| 3. T | 8. F | 13. F |
| 4. F | 9. T | |
| 5. T | 10. T | |
-

EXAMINATION SECTION

TEST 1

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. At times there may be a conflict between employees' needs and agency goals. A supervisor's MAIN role in motivating employees in such circumstances is to try to 1. ___
 - A. develop good work habits among the employees whom he supervises
 - B. emphasize the importance of material rewards such as merit increases
 - C. keep careful records of employees' performance for possible disciplinary action
 - D. reconcile employees' objectives with those of the public agency

2. Organizations cannot function effectively without policies. However, when an organization imposes excessively detailed policy restrictions, it is MOST likely to lead to 2. ___
 - A. conflicts among individual employees
 - B. a lack of adequate supervision
 - C. a reduction of employee initiative
 - D. a reliance on punitive discipline

3. The PRIMARY responsibility for establishing good employee relations in the public service USUALLY rests with 3. ___
 - A. employees
 - B. management
 - C. civil service organizations
 - D. employee organizations

4. At times, certain off-the-job conduct of public employees may be of concern to management. This concern stems from the fact that 4. ___
 - A. agency programs could be harmed by adverse publicity if employees' conduct is considered detrimental by the public
 - B. fairness to all concerned is usually the major consideration in disciplinary cases
 - C. public employees must meet higher standards than employees working in private industry
 - D. public employees have high ethical standards and may participate in social action programs

5. At one time or another, most employees ask for, or expect, special treatment. For a supervisor faced with this problem, the one of the following which is the MOST valid guideline is: 5. ___
 - A. According to the rules, a supervisor must give identical treatment to all his subordinates, regardless of the circumstances.
 - B. Although all employees have equal rights, it is sometimes necessary to give an employee special treatment to meet an individual need.
 - C. It would damage morale if any employee were to receive special treatment, regardless of circumstances.
 - D. Since each employee has different needs, there is little reason to maintain general rules.

6. Mental health problems exist in many parts of our society and may also be found in the work setting. The BASIC role of the supervisor in relation to the mental health problems of his subordinates is to
- A. restrict himself solely to the taking of disciplinary measures, if warranted, and follow up carefully
 - B. avoid involvement in personal matters
 - C. identify mental health problems as early as possible
 - D. resolve mental health problems through personal counseling
7. Supervisory expectation of high levels of employee performance, where such performance is possible, is MOST likely to lead to employees'
- A. expecting frequent praise and encouragement
 - B. gaining a greater sense of satisfaction
 - C. needing less detailed instructions than previously
 - D. reducing their quantitative output
8. In public agencies, as elsewhere, supervisors sometimes compete with one another to increase their units' productivity. Of the following, the MAJOR disadvantage of such competition, from the general viewpoint of providing good public service, is that
- A. while individual employee effort will increase, unit productivity will decrease
 - B. employees will be discouraged from sincere interest in their work
 - C. the supervisors' competition may hinder the achievement of agency goals
 - D. total payroll costs will increase as the activities of each unit increase
9. If employees are motivated primarily by material compensation, the amount of effort an individual employee will put into performing his work effectively will depend MAINLY upon how he perceives
- A. cooperation to be tied to successful effort
 - B. the association between good work and increased compensation
 - C. the public status of his particular position
 - D. the supervisor's behavior in work situations
10. Cash awards to individual employees are sometimes used to encourage useful suggestions. However, some management experts believe that awards should involve some form of employee recognition other than cash. Which of the following reasons BEST supports opposition to using cash as a reward for worthwhile suggestions?
- A. Cash awards cause employees to expend excessive time in making suggestions.
 - B. Taxpayer opposition to cash awards has increased following generous salary increases for public employees in recent years.
 - C. Public funds expended on awards lead to a poor image of public employees.
 - D. The use of cash awards raises the problem of deciding the monetary value of suggestions.
11. The BEST general rule for a supervisor to follow in giving praise and criticism is to
- A. criticize and praise publicly
 - B. criticize publicly and praise privately
 - C. praise and criticize privately
 - D. praise publicly and criticize privately

12. An important step in designing an error-control policy is to determine the maximum number of errors that can be considered acceptable for the entire organization. Of the following, the MOST important factor in making such a decision is the 12. _____
- A. number of clerical staff available to check for errors
 - B. frequency of errors by supervisors
 - C. human and material costs of errors
 - D. number of errors that will become known to the public
13. When a supervisor tries to correct a situation where errors have been widespread, he should concentrate his efforts, and those of the employees involved, on 13. _____
- A. avoiding future mistakes
 - B. fixing appropriate blame
 - C. preparing a written report
 - D. determining fair penalties
14. When delegating work to a subordinate, a supervisor should ALWAYS tell the subordinate 14. _____
- A. each step in the procedure for doing the work
 - B. how much time to expend
 - C. what is to be accomplished
 - D. whether reports are necessary
15. The responsibilities of all employees should be clearly defined and understood. In addition, in order for employees to successfully fulfill their responsibilities, they should also GENERALLY be given 15. _____
- A. written directives
 - B. close supervision
 - C. corresponding authority
 - D. daily instructions
16. The one of the following types of training in which positive transfer of training to the actual work situation is MOST likely to take place is 16. _____
- A. conference training
 - B. demonstration training
 - C. classroom training
 - D. on-the-job training
17. The type of training or instruction in which the subject matter is presented in small units called frames is known as 17. _____
- A. programmed instruction
 - B. reinforcement
 - C. remediation
 - D. skills training
18. In order to bring about maximum learning in a training situation, a supervisor acting as a trainer should attempt to create a setting in which 18. _____
- A. all trainees experience a large amount of failure as an incentive
 - B. all trainees experience a small amount of failure as an incentive
 - C. each trainee experiences approximately the same amounts of success and failure
 - D. each trainee experiences as much success and as little failure as possible

19. Assume that, in a training course given by an agency, the instructor conducts a brief quiz, on paper, toward the close of each session. From the point of view of maximizing learning, it would be BEST for the instructor to
- wait until the last session to provide the correct answers
 - give the correct answers aloud immediately after each quiz
 - permit trainees to take the questions home with them so that they can look up the answers
 - wait until the next session to provide the correct answers
20. A supervisor, in the course of evaluating employees, should ALWAYS determine whether
- employees realize that their work is under scrutiny
 - the ratings will be included in permanent records
 - employees meet standards of performance
 - his statements on the rating form are similar to those made by the previous supervisor
21. All of the following are legitimate objectives of employee performance reporting systems EXCEPT
- servicing as a check on personnel policies such as job qualification requirements and placement techniques
 - determining who is the least efficient worker among a large number of employees
 - improving employee performance by identifying strong and weak points in individual performance
 - developing standards of satisfactory performance
22. Studies of existing employee performance evaluation schemes have revealed a common tendency to construct guides in order to measure inferred traits. Of the following, the BEST example of an inferred trait is
- A. appearance B. loyalty C. accuracy D. promptness
23. Which of the following is MOST likely to be a positive influence in promoting common agreement at a staff conference?
- A mature, tolerant group of participants
 - A strong chairman with firm opinions
 - The normal differences of human personalities
 - The urge to forcefully support one's views
24. Before holding a problem-solving conference, the conference leader sent to each invitee an announcement on which he listed the names of all invitees. His action in listing the names was
- wise, mainly because all invitees will know who has been invited, and can, if necessary, plan a proper approach
 - unwise, mainly because certain invitees could form factions prior to the conference
 - unwise, mainly because invitees might come to the conference in a belligerent mood if they had had interpersonal conflicts with other invitees
 - wise, mainly because invitees who are antagonistic to each other could decide not to attend

25. Methods analysis is a detailed study of existing or proposed work methods for the purpose of improving agency operations. Of the following, it is MOST accurate to say that this type of study
- A. can sometimes be made informally by the experienced supervisor who can identify problems and suggest solutions
 - B. is not suitable for studying the operations of a public agency
 - C. will be successfully accomplished only if an outside organization reviews agency operations
 - D. usually costs more to complete than is justified by the potential economies to be realized

25. _____

KEY (CORRECT ANSWERS)

- | | |
|-------|-------|
| 1. D | 11. D |
| 2. C | 12. C |
| 3. B | 13. A |
| 4. A | 14. C |
| 5. B | 15. C |
| 6. C | 16. D |
| 7. B | 17. A |
| 8. C | 18. D |
| 9. B | 19. B |
| 10. D | 20. C |
| 21. B | |
| 22. B | |
| 23. A | |
| 24. A | |
| 25. A | |
-

TEST 2

DIRECTIONS: Each question or incomplete statement is followed by several suggested answers or completions. Select the one that BEST answers the question or completes the statement. *PRINT THE LETTER OF THE CORRECT ANSWER IN THE SPACE AT THE RIGHT.*

1. Present-day managerial practices advocate that adequate hierarchical levels of communication be maintained among all levels of management. Of the following, the BEST way to accomplish this is with
A. interdepartmental memoranda only
B. interdepartmental memoranda only
C. periodic staff meetings, interdepartmental and interdepartmental memoranda
D. interdepartmental and interdepartmental memoranda
2. It is generally agreed upon that it is important to have effective communications in the unit so that everyone knows exactly what is expected of him. Of the following, the communications system which can assist in fulfilling this objective BEST is one which consists of
A. written policies and procedures for administrative functions and verbal policies and procedures for professional functions
B. written policies and procedures for professional and administrative functions
C. verbal policies and procedures for professional and administrative functions
D. verbal policies and procedures for professional functions
3. If a department manager wishes to build an effective department, he MOST generally must
A. be able to hire and fire as he feels necessary
B. consider the total aspects of his job, his influence and the effects of his decisions
C. have access to reasonable amounts of personnel and money with which to build his programs
D. attend as many professional conferences as possible so that he can keep up-to-date with all the latest advances in the field
4. Of the following, the factor which generally contributes MOST effectively to the performance of the unit is that the supervisor
A. personally inspect the work of all employees
B. fill orders at a faster rate than his subordinates
C. have an exact knowledge of theory
D. implement a program of professional development for his staff
5. Administrative policies relate MOST closely to
A. control of commodities and personnel
B. general policies emanating from the central office
C. fiscal management of the department only
D. handling and dispensing of funds

6. Part of being a good supervisor is to be able to develop an attitude towards employees which will motivate them to do their best on the job. The GOOD supervisor, therefore, should 6. _____
- A. take an interest in subordinates, but not develop an all-consuming attitude in this area
 - B. remain in an aloof position when dealing with employees
 - C. be as close to subordinates as possible on the job
 - D. take a complete interest in all the activities of subordinates, both on and off the job
7. The practice of a supervisor assigning an experienced employee to train new employees instead of training them himself, is, GENERALLY, considered 7. _____
- A. *undesirable*; the more experienced employee will resent being taken away from his regular job
 - B. *desirable*; the supervisor can then devote more time to his regular duties
 - C. *undesirable*; the more experienced employee is not working at the proper level to train new employees
 - D. *desirable*; the more experienced employee is probably a better trainer than the supervisor
8. It is generally agreed that on-the-job training is MOST effective when new employees are 8. _____
- A. provided with study manuals, standard operating procedures and other written materials to be studied for at least two weeks before the employees attempt to do the job
 - B. shown how to do the job in detail, and then instructed to do the work under close supervision
 - C. trained by an experienced worker for at least a week to make certain that the employees can do the job
 - D. given work immediately which is checked at the end of each day
9. Employees sometimes form small informal groups, commonly called cliques. With regard to the effect of such groups on processing of the workload, the attitude a supervisor should take towards these cliques is that of 9. _____
- A. *acceptance*, since they take the employees' minds off their work without wasting too much time
 - B. *rejection*, since those workers inside the clique tend to do less work than the outsiders
 - C. *acceptance*, since the supervisor is usually included in the clique
 - D. *rejection*, since they are usually disliked by higher management
10. Of the following, the BEST statement regarding rules and regulations in a unit is that they 10. _____
- A. are "necessary evils" to be tolerated by those at and above the first supervisory level only
 - B. are stated in broad, indefinite terms so as to allow maximum amount of leeway in complying with them
 - C. must be understood by all employees in the unit
 - D. are primarily for management's needs since insurance regulations mandate them

11. It is sometimes considered desirable for a supervisor to survey the opinions of his employees before taking action on decisions affecting them. Of the following, the greatest DISADVANTAGE of following this approach is that the employees might
- A. use this opportunity to complain rather than to make constructive suggestions
 - B. lose respect for their supervisor whom they feel cannot make his own decisions
 - C. regard this as an attempt by the supervisor to get ideas for which he can later claim credit
 - D. be resentful if their suggestions are not adopted
12. Of the following, the MOST important reason for keeping statements of duties of employees up-to-date is to
- A. serve as a basis of information for other governmental jurisdictions
 - B. enable the department of personnel to develop job-related examinations
 - C. differentiate between levels within the occupational groups
 - D. enable each employee to know what his duties are
13. Of the following, the BEST way to evaluate the progress of a new subordinate is to
- A. compare the output of the new employee from week to week as to quantity and quality
 - B. obtain the opinions of the new employee's co-workers
 - C. test the new employee periodically to see how much he has learned
 - D. hold frequent discussions with the employee focusing on his work
14. Of the following, a supervisor is LEAST likely to contribute to good morale in the unit if he
- A. encourages employees to increase their knowledge and proficiency in their work on their own time
 - B. reprimands subordinates uniformly when infractions are committed
 - C. refuses to accept explanations for mistakes regardless of who has made them or how serious they are
 - D. compliments subordinates for superior work performance in the presence of their peers
15. The practice of promoting supervisors from within a given unit only, rather than from within the entire agency, may BEST be described as
- A. *desirable*, because the type of work in each unit generally is substantially different from all other units
 - B. *undesirable*, since it will severely reduce the number of eligibles from which to select a supervisor
 - C. *desirable*, since it enables each employee to know in advance the precise extent of promotion opportunities in his unit
 - D. *undesirable*, because it creates numerous administrative and budgetary difficulties
16. Of the following, the BEST way for a supervisor to make assignments GENERALLY is to
- A. give the easier assignments to employees with greater seniority
 - B. give the difficult assignments to the employees with greater seniority
 - C. make assignments according to the ability of each employee
 - D. rotate the assignments among the employees

17. Assume that a supervisor makes a proposal through appropriate channels which would delegate final authority and responsibility to a subordinate employee for a major control function within the agency. According to current management theory, this proposal should be 17. _____
- A. *adopted*, since this would enable the supervisor to devote more time to non-routine tasks
 - B. *rejected*, since final responsibility for this high-level assignment may not properly be delegated to a subordinate employee
 - C. *adopted*, since the assignment of increased responsibility to subordinate employees is a vital part of their development and training
 - D. *rejected*, since the morale of the subordinate employees not selected for this assignment would be adversely affected
18. If it becomes necessary for a supervisor to improve the performance of a subordinate to assure the achievement of results according to plans, the BEST course of action, of the following, generally, would be to 18. _____
- A. emphasize the subordinate's strengths and try to motivate the employee to improve on those factors
 - B. emphasize the subordinate's weak areas of performance and try to bring them up to an acceptable standard
 - C. issue a memorandum to all employees warning that if performance does not improve, disciplinary measures will be taken
 - D. transfer the subordinate to another section engaged in different work
19. A supervisor who specifies each phase of a job in detail, supervises closely and permits very little discretion in performance of tasks, GENERALLY 19. _____
- A. provides motivation for his staff to produce more work
 - B. finds that his subordinates make fewer mistakes than those with minimal supervision
 - C. finds that his subordinates have little or no incentive to work any harder than necessary
 - D. provides superior training opportunities for his employees
20. Assume that you supervise two employees who do not get along well with each other. Their relationship has been continuously deteriorating. You decide to take steps to solve this problem by first determining the reason for their inability to get along well with each other. This course of action is 20. _____
- A. *desirable*, because their work is probably adversely affected by their differences
 - B. *undesirable*, because your inquiries might be misinterpreted by the employees and cause resentment
 - C. *desirable*, because you could then learn who is at fault for causing the deteriorating relationship and take appropriate disciplinary measures
 - D. *undesirable*, because it is best to let them work their differences out between themselves