## 1 Exam Prep

## General, Building and Residential Contractor

## Practice Test 5

1. Opaque swinging doors require a U -value of?

| A | $\geq .70$ |
| :--- | :--- |
| B | $\leq .70$ |
| C | $>.70$ |
| D | $<.70$ |

2. The $\qquad$ shall furnish surveys describing the physical characteristics, legal limitations and utility locations for the site of the project.

A Contractor
B Sub-Contractor
C Owner
D Architect
3. A trench is 300 feet long and six feet deep. $\qquad$ egress ladders are required.

A 12
B 10
C 6
D 3
4. Written descriptions of materials and workmanship required on a project are called?

A Material takeoffs
B Specifications
C Bill of Materials
D Submittals
5. A temporary permit may be issued for all of the following except?

A Plumbing for a job trailer
B Temporary construction power
C Site work for a jobsite office
D A storage shed for materials
6. The total cubic yards of concrete required to place the elevator slab is?

A Less than 7
B $\quad$ Between 7 and 8
C Between 8 and 9
D More than 9
7. Which of the following statements is true regarding reinforcing steel?

A A small amount of tight rust and scale is acceptable as long as the bars still comply with ASTM standards
B All bar sizes must be completely free of rust and scale
C Some foreign or organic matter such as mud or oil is acceptable on all sizes of bars
D Care should be given during unloading of bars that rust and mill scale is not removed
8. The courts have generally held that which of the following documents is the final authority in a construction project?

A Architectural drawings
B Submittals
C Specifications
D As built drawings
9. The benchmark reading at the north property line is? All slopes are the same as the drive slope.

A 103.1
B 92.54
C 83.9
D $\quad 94.46$
10. A sunroom is defined as a room with roof panels containing sloped glazing with an open or glazed area in excess of $\qquad$ percent of the gross area of the exterior walls?

A 20
B 30
C 40
D 50
11. When setting steel base plates $\qquad$ can be used in addition to leveling nuts.

A Shim packs
B Anchor bolts
C Washers
D Rubber sleeves
12. The total cubic yards of concrete required west of coordinates A2 and D2 on the third floor only is? Do not deduct for any penetrations.

A Less than 13.5
B Between 13.5 and 13.9
C Between 13.9 and 14.3
D More than 14.3
13. A surveyor has set the first corner of the site at an elevation of 57.75 feet. He plots the next corner at 62.33 feet. The elevation has changed?

| A | +4.58 feet |
| :--- | :--- |
| B | -4.58 feet |
| C | +4.0 feet |
| D | -4.0 feet |

14. Temporary bracing for masonry walls over $\qquad$ feet shall be used to prevent overturning and to prevent collapse

| A | 6 |
| :--- | :--- |
| B | 8 |
| C | 10 |
| D | 12 |

15. ABC Construction is renovating an old commercial building. The assessed value of the renovation is $\$ 69,000$. The assessed value of the structure is $\$ 71,690$. Which is the most correct?

A Compliance with the code may be required
B A building permit may be necessary
C The renovation shall meet the energy requirements
D The decision belongs with the building official
16. Brick buildings over 10 to 12 stories high require addition of a multiplier for labor. The allowance above normal used for a building of 22 stories is?

A $10 \%$
B $8 \%$
C $12 \%$
D $5 \%$
17. ABC Construction must determine the benchmark reading the bottom of the number 3 pile caps. The slab is eight inches thick; not six (6) inches as shown on the plans. The benchmark reading at the bottom of the number 3 pile cap is $\qquad$ feet.

A $\quad 93.33$
B 89.33
C 92.66
D 88.66
18. Which types of mortar are now commonly accepted by most building codes?

A M\&K
B S \& K
C M\&O
D S\&N
19. The total cubic yards taken from an excavation $40^{\prime} \mathrm{X} 40^{\prime}$ at the bottom, that is $12^{\prime}$ deep with a 45 degree angle of repose is $\qquad$ cubic yards?

A Less than 1,000
B Between 1,000 and 1,100
C Between 1,100 and 1,200
D More than 1,200
20. The architect sent ABC Construction a Change Order proposal requesting the addition of $84^{\prime}$ to the length of a rectangular parking lot scheduled to be constructed.

- The pavement of the parking area is $164^{\prime}$ wide
- Fourteen additional diagonal parking spaces are to be added
- Concrete curbing will be required on each side of the added parking lot length.
- Each parking space will require a bumper.

The contractor uses the net unit costs in preparing the Change Order. Overhead, profit, taxes and insurance are included.

- Additional paved area costs
$\$ 11.90$ per square yard
- Additional concrete curbing costs
$\$ 8.40$ per lineal foot
- Parking bumpers cost
$\$ 35.00$ each
The proposed Change Order increase to the contract is?
A Less than \$19,500
B Between $\$ 19,500$ and $\$ 19,700$
C Between \$19,700 and \$20,000
D More than $\$ 20,000$

21. Sloping or benching for excavations greater than 20 feet deep, shall be designed by?

A The excavation contractor
B The architect
C A professional engineer
D The general contractor
22. For wood trusses the bottom chord permanent bracing shall be installed with a maximum spacing of $\qquad$ feet.

| A | 4 |
| :--- | :--- |
| B | 6 |
| C | 10 |
| D | 12 |

23. Employees on the face of reinforcing steel shall be protected from falling $\qquad$ feet or more.

A 6
B $\quad 10$
C 8
D 4
24. The minimum number of vertical metal studs for all interior partition walls is? Do not add for studs in exterior concrete wall panels. Metal studs are spaced 16 inches on center.

A $\quad 76$
B $\quad 78$
C 154
D 156
25. For a gypsum drywall ceiling using $1 / 2$ board nailed to wood joists, the minimum spacing for a single nail application should be $\qquad$ inches.

A 7
B 8
C 16
D 24
26. A datum point used for locating the exact position of a building is computed based upon?

A Mean sea level
B An arbitrary elevation
C Two or more fore-sights
D Two or more back-sights
27. In order to bring an existing commercial building into compliance with the Florida Building Code, Energy Conservation, which method should first be applied?

A Climate-specific compliance method
B The $50 \%$ of thermal building envelope method
C Prescriptive method
D Performance method
28. Compaction testing is based upon the relationship of moisture content to?

A Minimum soil dry density
B Maximum soil dry density
C Minimum soil moist density
D Maximum soil moist density
29. A 3/4 inch dead space has an R-value of?

A $\quad 1.6$
B $\quad 2.0$
C $\quad .77$
D . 75
30. Given:

- The average flat lot elevation is $106^{\prime} 6^{\prime \prime}$.
- The soil is found to be unsuitable under planters \#1 and \#2, to a depth of 40 " and two (2) feet beyond the footers.
- Miscellaneous provisions state the contractor is liable for the first 18 " of excavation.
- Excess amounts of the excavation need to be charged to the owner at a cost of $\$ 7.50$ per cubic yard plus a 10 percent contractor fee.

The Change Order amount using dimensions found from the outside is?
A Less than $\$ 450$
B Between \$450 and \$475
C Between \$475 and \$500
D More than $\$ 500$
31. OSHA records shall be maintained for a period of $\qquad$ calendar years.

A 3
B 5
C 7
D $\quad 10$
32. A grade of $15 \%$ indicates?

A $\quad 15$ feet of rise per 50 feet of horizontal distance
B $\quad 15$ feet of rise per 100 feet of horizontal distance
C 15 feet of rise per 150 feet of horizontal distance
D 15 feet of rise per 200 feet of horizontal distance
33. A training course for all employees involved in Class Ill asbestos work shall include "hands on" training for a minimum of $\qquad$ hours.

A 8
B 2
C 10
D 16
34. For an elevator recall system used by firefighters for access which type of elevators are required?

A Phase 1
B Phase 2
C Phase 1 and 2
D No elevator
35. An oriented grouping of project elements that organizes and defines the total work scope of a project is the?

A Critical Path Method (CPM)
B Work Breakdown Structure (WBS)
C Project Evaluation Review Technique (PERT)
D Project Scheduling Method (PSM)
36. Interrelated operations in network analysis are known as?

A Operations
B Tasks
C Activities
D Jobs
37. The total number of 4 inch CMU's required for the restroom is?

A Less than 250
B Between 250 and 300
C Between 300 and 350
D More than 350
38. The Conceptual Phase of the project is expressed by which scheduling format?

A Arrow diagram
B Milestone bar chart
C Precedence diagram
D CPM format
39. Minor changes in the work are ordered by the?

A Contractor
B Architect
C Owner
D Building inspector
40. A schedule of values shall be submitted to the architect by the contractor?

A After the first application for payment is submitted
B Before the first application for payment is submitted
C At least 10 days before the date established for each progress payment
D With each application for payment
41. The subcontractor, subsequent to the execution of the subcontract contract, may be ordered in writing to perform changes in the work according to the prime contract by the?

A Owner
B Architect
C Contractor
D Owner's lawful agent
42 Given:

- The backsight reading of a builder's level to the benchmark for a building site under construction is 5.13'
- The elevation given on the site plan for the benchmark is $24.63^{\prime}$
- A footing is to be excavated to an elevation $4^{\prime}-8^{\prime \prime}$ below the elevation of the building finish floor elevation
- The finished floor elevation is to be $27.65^{\prime}$

The foresight reading to the bottom of the footing excavation is?
A $5.13^{\prime}$
B $\quad 5.95^{\prime}$
C $\quad 6.78^{\prime}$
D $\quad 7.58^{\prime}$
43. A contractor is comparing bids from 2 subcontractors. Sub A includes workers' compensation coverage for the subcontractor's employees. The total amount of Sub A's bid is $\$ 27,500$ for all labor and materials. Sub B does not include worker's compensation, which the contractor will have to furnish at the rate of $\$ 17.50$ per $\$ 100$ of payroll. Sub B's bid is $\$ 25,750$ which includes labor of $\$ 12,000$ and materials of $\$ 13,750$. The difference in the lower bid is?

A $\quad$ Sub B by $\$ 1,750$
B $\quad$ Sub A by $\$ 2,100$
C $\quad$ Sub B by $\$ 350$
D Sub A by $\$ 350$
44. ABC was awarded a $\$ 170.00$ contract for construction. The agreement required retainage of $10 \%$ to apply to all draws until the project has reached substantial completion. The costs to date include: labor costs of $\$ 12,000$ which includes direct labor of $\$ 7,000$ and supervision costs of $\$ 5,000$ (these figures include all payroll taxes, workers' comp). The overhead and profit (fixed overhead and profit) are calculated at $12 \%$; subcontractor payments to date are $\$ 28,000$. Payments to material suppliers are $\$ 23,100$. ABC has received $\$ 65,000$ in payments.

The material costs to date include sales tax paid at $7 \%$. Using only the figures given, the total sales tax payable by ABC is?

A $\quad \$ 1,617.00$
B $\quad \$ 1,511.21$
C $\quad \$ 1,738.71$
D $\$ 1,503.81$
45. Jose referred to the Construction Activity Network. He determined he needed to schedule the start of partition construction not later than?

A 31 days after the completion of structural steel
B 32 days after the completion of structural steel
C 31 days from the end of the project
D 29 days before the end of the project
46. Addenda are issued at?

A Pre-bid
B Post-bid
C Pre-contract
D Post-contract
47. Labor cost is $\$ 0.19$ per square foot and material cost is $\$ 241$ per 1,000 square feet. The labor and material cost for the installation of gypsum board on the third floor walls is?

A Less than $\$ 700$
B Between \$700 and \$800
C Between \$800 and \$900
D More than $\$ 900$
48. In any dispute between a contractor and subcontractor who have executed an A401 standard form of agreement, which statement is most correct?

A Mediation is not mandatory but is binding
B Mediation is both non-binding and voluntary
C Mediation is both non-binding and mandatory
D Mediation is both binding and mandatory
49. In developing a network, an example of a "soft" dependency is which of the following?

A The drywall on the second floor will be installed before the bathroom tile is laid
B Footings will be installed before the structural steel columns are erected
C Wheel stops in the parking area will be installed after the asphalt pavement is placed
D Construction will start on the north side of the building
50. Elements of a contract are defined as which of the following?

A Design, negotiation and acceptance
B Offer, acceptance and consideration
C Negotiation, offer and counter-offer
D Bid, price and acceptance
51. The penalty (only) for not obtaining a permit is? The permit cost $\$ 3,500$.

A $\$ 3,500$
B $\quad \$ 7,000$
C $\$ 10,500$
D $\$ 4,000$
52. The job status report for a mid-rise office building project is prepared by the?

A Project superintendent
B Project manager
C Architect
D Owner's designated agent
53. A practice by which contractors both before and after their bids are submitted, attempt to obtain from potential subcontractors and material suppliers, lower prices than those in the contractor's original estimates is known as?

A Competitive pricing
B Competitive bidding
C Bid pricing
D Bid shopping
54. In order to comply with the requirements governing decay and termites, condensate and roof downspouts shall discharge at least $\qquad$ away from the structure sidewall.

A 1 foot
B $\quad 18$ inches
C 6 inches
D 2 feet
55. The number of degrees in angle " A " is?

A $\quad 69^{\circ} 55^{\prime} 00^{\prime \prime}$
B $\quad 64^{\circ} 30^{\prime} 00^{\prime \prime}$
C $\quad 84^{\circ} 35^{\prime} 30^{\prime \prime}$
D $\quad 69^{\circ} 63^{\prime} 00^{\prime \prime}$
56. The minimum nominal dimension of wood furring strips installed over solid backing shall be not less than?

A 2 inches X 4 inches
B $\quad 1$ inch X 4 inches
C 1 inch X 2 inches
D 2 inches X 3 inches
57. The minimum allowed riser height and tread depth for industrial equipment access stairs and landings which serve as a means of egress for more than 20 people shall be a?

A Maximum 9 inch riser height; minimum 10 inch tread depth
B Maximum 7 inch riser height; minimum 11 inch tread depth
C Maximum 9 inch riser height; minimum 11 inch tread depth
D Maximum of 7 inch riser height; minimum of 10 inch tread depth
58. A masonry wall is to be constructed. The wall is 10 feet high and 20 feet long. The limited access zone is how many square feet?

A 14
B 24
C 200
D 280
59. The top of accessible handrail gripping surfaces shall be mounted a minimum of $\qquad$ inches above the ramp surface.

A 34
B 36
C 38
D 42
60. Energy compliance is made part of the plans and requires certification by the?

A Contractor
B Engineer
C Building's owner
D Building official

## ANSWER KEY

7. A Placing Reinforcing Bars

8 C Contractors Manual

9 D Principles/Practices Commercial Construction $160+80$ X $.4 \%=.96$ Rise $93.5+.96=94.46$

10 C Florida Building Code 2010, Building 1202.01

11 A Principles/Practices Commercial Construction 339

12 C $20+20+19+.5=59.5$ $19+.5=19.5$
$2 \div 2+3 \div 12=.33$
59.5 X 19.5 X $.33 \div 27=14.1$

13 A Principles/Practices Commercial Construction 24-47

14 B OSHA 1926 .706(b)

15 C Florida Building Code 2010, Energy Conservation 101.4.3

16 A Walker's Building Estimators Reference Manual 704

17 B Principles/Practices Commercial Construction 24-47 $100-8-2.67=89.33$

18 D Principles/Practices Commercial Construction 427

19 D OSHA 1926 Subpart P Appendix B 52 X 52 X $12 / 27=1,201.7$
$300 \div 50=6$
B Contractors Manual 10-76

C Florida Building Code 2010, Building 108

C $\quad 10.67 \times 20.67 \times 1 \div 27=8.16$8-310-6 48 +

D PARKING: \# X L X W $\div 9 \mathrm{X} \operatorname{COST}=$ TOTAL
PAVING: $1 \times 84 \times 164 \div 9 \times 11.9=18,214.93$
CURB: $2 \times 84 \quad$ X $8.40=1,411.20$
BUMPERS: $14 \quad X 35.00=\underline{490.00}$
21 C OSHA 1926 Subpart P Appendix B Figure B-1
22
23
24

25 A Application and Finishing Gypsum GA 216-2010
26
27 A Energy Efficient Building Construction in Florida
28 B Principles/Practices Commercial Construction
29 C Energy Efficient Building Construction in Florida 247

30

31
32
33 D OSHA 1926
34 D Florida Building Code 2010, Building
35
36
37

38
39
25 A Application and Finishing Gypsum GA 216-2010
8
B Principles/Practices Commercial Construction 24
$19 \times 12 \div 16+1=15.25=16$
$29 \times 12 \div 16+1=22.75=23$
$39 \times 2 \times 2=156$ 18

C \#X L X W X T $\div 27$ X COST + MARKUP $=$ COST $2 \times 25.34 \times 17.34 \times 1.83 \div 27 \times 7.50+10 \%$ is 491.39

B OSHA
B Principles/Practices Commercial Construction 28 3003.2

B Walker's Building Estimators Reference Manual 134

C Contractors Manual 10-59

B $\quad 10-.33-.33=9.34$
$13.33 \times 9.34 \times 2 \times 1.125=280.1$
B Contractors Manual 10-66

B AIA A201 7.4 1904.33(a) $.1101(\mathrm{k})(9)(5)$

B AIA A201

## 41 C AIA A701

5.242 C Principles/Practices Commercial Construction ..... 24-47
$27.65-4.67=22.98$$24.63+5.13-22.98=6.78$
D Contractors Manual6-15/16$12,000+17.5 \%+13,750-27,500=\$ 350$

D $\quad 5+5+12+5+2=29$Note: Work backwards from finish whenever asked this type of question46

A AIA A7013.4.3
C $\quad 241 \div 1,000=.241+.19=.431 / \mathrm{SF}$
48
C AIA A401 CoverPage 1
49 D Contractors Manual ..... 10-59 ..... 10-59
50 B Contractors Manual ..... 8-5/6
51 A Florida Building Code 2010, Building ..... 109.4 ..... 10.4
52 A Contractors Manual ..... 10-38
53 D Contractors Manual ..... 10-73
1503.7
A Florida Building Code 2010, BuildingB Builder's Guide to Accounting179
$23,100 \mathbf{M}+/ 107 \% \mathbf{M}-\mathbf{M R}=\$ 1,511.21$
\#X L X H X COST = TOTAL 2 X 96 X 10.5 X $.431=868.90$ ..... -
$\begin{array}{lllllll}\text { A } & 89^{\circ} & 60^{\prime} & 89^{\circ} & 60^{\prime} & 5^{\circ} & 25^{\prime}\end{array}$

| -8435 |  |  |
| :--- | :--- | :--- |
| $5^{\circ}$ | $25^{\prime}$ | $\frac{-25}{} 30$ |
| $64^{\circ} 30^{\prime}$ | $\frac{+6430}{69^{\circ}} 55^{\prime}$ |  |

C Florida Building Code 2010, Building ..... 2504.1.1
B Florida Building Code 2010, Building ..... 1009.4.2
D OSHA 1926 ..... 706$10+4 \times 20=280$




1. Metal roll-up service doors have $14^{\prime}-0^{\prime \prime}$ wide by $12^{\prime}-0^{\prime \prime}$ high masonry opening.
2. All concrete block are $8^{\prime \prime}$ CMU except where otherwise noted typical all floors.
3. Interior walls end $4^{\prime \prime}$ above finish ceiling on first floor.
4. Ceiling height in restrooms is $13^{1}-0^{\prime \prime}$.
5. Boxing around all columns has exterior dimensions of $1^{\prime}-0^{\prime \prime}$
$x 1^{\prime}-0^{\prime \prime}$, typical all floors
Interior single leaf door masonry openings are $3^{0} \times 7^{0}$.

I st Floor Plan


Metal Stud \&
Drywall Partition



DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION





2nd \& 3rd Floors Framing Plan


Stair Treads \& Risers

## GENERAL NOTES

1. Treads and risers on all stair runs
2. Treads and risers on all
are $4^{\prime}-8^{\prime \prime}$ wide, typical.
3. Stairs terminate at 3 rd floor landing.

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DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

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""-20 gage


| Activity Flow Chart Symbol |  | Activity Flow Chart Symbol |  | Activity Flow Chart Symbol |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Award of Contract | A | Final Inspection | K | Permit (Application Time) | T |
| Bituminous Paving | B | Finish Flooring \& Molding | L | Pile Driving | U |
| Block Masonry | C | Hardwaxe \& Fixtures | M | P1anter Construction | V |
| Ceiling Installation | D | Heating, Ventilating, \& Air | N | Plumbing Installation | W |
| Cleanup | E | Conditioning Installation |  | Roofing | X |
| Concrete - Curb \& Walks | F | Landscaping | 0 | Site Clearing \& Grubbing | Y |
| Concrete - Floor Slabs | G | Mechanical Installation | P | Site Survey - | z |
| Concrete - Foundations | H | Painting | Q | Steel Work | AA |
| Earthwork | I | Partition Construction | R | Trim Work | BE |
| Electrical Installation | J | Paving Subgrade \& Base Course | S | Windows \& Doors Installation | CC |



