

PRACTICE EXAM 23: ARKANSAS BUSINESS AND LAW SIMULATION (50 QUESTIONS)

Total Questions: 50 | **Time Limit:** 2 Hours | **Passing Score:** 70% (35/50)

This practice exam mirrors the official Arkansas Contractor Business and Law Examination in format, domain weighting, and difficulty. Answer all questions by selecting the single best answer.

DOMAIN: BUSINESS ORGANIZATION (1 Question)

1. A contractor operates as a multimember LLC with three equal members. Member A manages field operations, Member B manages the office and finances, and Member C is a silent investor who contributed \$200,000 in startup capital. The company defaults on a \$150,000 material supplier invoice. The supplier sues the LLC and all three members personally. Under the LLC structure, what is each member's personal liability for the unpaid invoice?

A. Each member is personally liable for onethird of the \$150,000 (\$50,000 each) because equal members share equal liability

B. Only Members A and B are personally liable because they actively manage the company, while Member C is protected as a passive investor

C. All three members are personally liable for the full \$150,000 because LLC liability protection does not apply to unpaid vendor invoices

D. No member has personal liability for the company's unpaid invoice — the LLC structure protects all members' personal assets from business debts, and the supplier's claim is limited to the LLC's business assets, regardless of whether the member is active or passive

DOMAIN: LICENSING (4 Questions)

2. A contractor holds an unrestricted commercial license and successfully completes a \$3,200,000 government office building. The project is delivered on time, within budget, and

receives commendations from the project owner. However, during the ACLB's routine renewal review, the Board discovers that the contractor's workers' compensation insurance lapsed for a 45day period during construction — the contractor's insurance broker failed to renew the policy on time. No injuries occurred during the lapse. Can the ACLB take disciplinary action?

A. No, because no injuries occurred during the lapse period and the project was completed successfully

B. Yes, because maintaining workers' compensation insurance is a condition of licensure, and a 45day lapse constitutes a licensing violation regardless of whether injuries occurred — the ACLB can take action based on the insurance lapse itself, not on whether the lapse resulted in harm

C. No, because the insurance broker's error — not the contractor's negligence — caused the lapse

D. Yes, but only if a worker files a retroactive workers' compensation claim for the 45day period

3. A contractor applies for an Arkansas restricted commercial license. The ACLB application requires a CPAprepared financial statement. The contractor submits a compiled financial statement showing net worth of \$52,000 and cash of \$27,000. The contractor has 5 years of verified commercial construction experience, three acceptable reference letters, a \$10,000 surety bond, and has passed both the NASCLA trade exam and the Arkansas Business and Law exam. Is this application complete and eligible for approval?

A. No, because restricted commercial licenses require a minimum net worth of \$75,000

B. No, because restricted commercial licenses require an audited or reviewed financial statement rather than a compiled statement

C. Yes, because the application meets all requirements — a compiled financial statement is acceptable for the restricted commercial tier, net worth of \$52,000 exceeds the \$50,000 minimum, cash of \$27,000 exceeds the \$25,000 minimum, and all other requirements (experience, references, bond, examinations) are satisfied

D. No, because the contractor needs 7 years of experience for a restricted commercial license

4. A licensed residential builder in Arkansas receives a contract to build a \$320,000 custom home. The homeowner also wants the contractor to grade and pave a 200foot private driveway connecting the home to the county road. The driveway grading and paving is valued at \$35,000. Can the residential builder perform the driveway work under their residential builder license?

- A. Yes, because the private driveway is an integral part of the residential construction project — site work including grading and paving of residential driveways is within the scope of a residential builder's license when performed as part of a residential construction project
- B. No, because all paving work requires a Highway Construction (HY) classification regardless of whether it is a private driveway or a public road
- C. Yes, but only if the driveway is shorter than 300 feet and does not connect to a state highway
- D. No, because grading and paving are classified as civil construction activities that require a separate commercial license

5. The ACLB investigates a complaint that a licensed contractor submitted falsified reference letters with their initial license application three years ago. The investigation reveals that two of the three required references were fabricated — the persons listed did not exist, and the contact information was fake. The contractor has operated under the license for three years with no other complaints. What action can the ACLB take?

- A. No action because the threeyear statute of limitations on application fraud has expired
- B. A warning letter because the contractor's threeyear record of complaintfree operations demonstrates rehabilitation
- C. A fine not exceeding \$500 because application irregularities are classified as minor administrative violations
- D. The ACLB can revoke the license because it was obtained through fraud — falsifying reference letters on a license application is one of the most serious violations because it undermines the integrity of the licensing system itself, and the license may be void ab initio (from the beginning) because it was never validly issued

DOMAIN: ESTIMATING AND BIDDING (4 Questions)

6. A contractor's estimator is calculating the selling price for a commercial project. The estimated direct costs are \$890,000. The contractor's annual overhead is \$312,000 on total annual direct costs of \$2,600,000. The contractor wants an 8% net profit margin on the selling price. What is the correct selling price?

- A. \$1,061,590, calculated by adding overhead and then adding 8% of cost to the total
- B. \$1,091,957, calculated by allocating overhead at 12% (\$106,800), adding to direct costs (\$996,800 total cost), and dividing by 0.92 to achieve exactly 8% margin on selling price ($\$996,800 \div 0.92$)

- C. \$996,800, calculated with overhead but without the profit margin adjustment
- D. \$961,200, calculated by adding 8% to direct costs without overhead allocation

7. A public project requires all bidders to submit a bid bond equal to 5% of their bid amount. The bid documents specify: "Bid security shall be in the form of a bid bond issued by a surety company authorized to do business in Arkansas, a cashier's check, or a certified check payable to the Owner." A contractor submits the lowest bid at \$2,400,000 with an irrevocable letter of credit from their bank for \$120,000 as bid security. Is this bid security acceptable?

- A. No, because an irrevocable letter of credit is not listed among the three acceptable forms of bid security specified in the bid documents — the bid documents explicitly limit acceptable forms to a bid bond, cashier's check, or certified check, and a letter of credit does not meet any of these requirements regardless of its financial equivalence
- B. Yes, because an irrevocable letter of credit provides greater financial security than a bid bond
- C. Yes, because any financial instrument equivalent to 5% of the bid amount satisfies the bid security requirement
- D. No, but the contractor can substitute the letter of credit with an acceptable form within 48 hours of the bid opening

8. A contractor reviews a commercial project's specifications and finds that Division 03 (Concrete) specifies a minimum 28day compressive strength of 5,000 PSI for all structural concrete. The contractor's usual concrete supplier quotes \$175 per cubic yard for 5,000 PSI mix. A second supplier quotes \$148 per cubic yard for a mix they describe as "highstrength structural concrete" but their batch ticket shows a design strength of only 4,500 PSI. What should the estimator do?

- A. Use the \$148 quote because the second supplier's description of "highstrength structural concrete" implies it meets the specification
- B. Use the \$148 quote and add a \$27/CY allowance for a supplemental admixture to boost the second supplier's mix to 5,000 PSI
- C. Use the \$175 quote from the first supplier because their 5,000 PSI mix is the only quote that meets the specification — the second supplier's 4,500 PSI mix does not satisfy the minimum 5,000 PSI requirement regardless of how they describe it, and using a nonconforming mix would require removal and replacement at the contractor's expense
- D. Average the two quotes (\$161.50/CY) and use the midpoint as a compromise between cost and quality

9. A contractor is preparing a bid for a commercial building with a complex mechanical system. The contractor receives three mechanical subcontractor quotes: \$520,000, \$545,000, and \$580,000. All three quotes are from reputable firms with strong track records. The contractor uses the lowest quote (\$520,000) in their bid. After winning the project, the lowquoting subcontractor informs the contractor that they made a \$60,000 error and wants to increase their price to \$580,000. The contractor's bid included the \$520,000 quote and there is no contractual commitment between the contractor and the subcontractor. What is the contractor's situation?

- A. The contractor can force the subcontractor to honor the \$520,000 quote because it was relied upon in the winning bid
- B. The contractor can seek reimbursement from the project owner for the \$60,000 increase because the subcontractor's error constitutes a differing site condition
- C. The contractor is obligated to accept the \$580,000 revised price because subcontractor quotes are always nonbinding
- D. The contractor likely cannot force the subcontractor to honor the original quote if no binding subcontract exists — the contractor must either negotiate with the subcontractor, accept the higher price and absorb the \$60,000 difference, or engage one of the other two bidders at their quoted prices (\$545,000 or \$580,000)

DOMAIN: CONTRACT MANAGEMENT (8 Questions)

10. A contractor receives a change order for generator work. Selfperformed concrete and fuel system: \$60,000. Subcontracted electrical: \$35,000. Contract markup: 15% selfperformed, 8% subcontracted. What is the total billable change order amount?

- A. \$95,000 with no markup because the combined cost equals the original change order estimate
- B. \$106,800, calculated as selfperformed ($\$60,000 \times 1.15 = \$69,000$) plus subcontracted ($\$35,000 \times 1.08 = \$37,800$)
- C. \$109,250, calculated at 15% on the full \$95,000 because the contractor manages all aspects of the change
- D. \$100,700, calculated by averaging the 15% and 8% rates and applying 11.5% to the total

11. A project architect issues a written interpretation stating that a specific ceiling treatment — a coffered plaster ceiling in the main lobby — is included in the contractor's base scope. The contractor reviews the contract documents and finds that the coffered ceiling is shown only on a perspective rendering in the project brochure, not on the reflected ceiling plan or in the finish

schedule. The rendering was included in the bid documents but is labeled "Conceptual — Not for Construction." What is the contractor's strongest argument?

A. The rendering is explicitly labeled "Conceptual — Not for Construction," which means it is not a contract document that defines the contractor's scope of work — the reflected ceiling plan (which does not show a coffered ceiling) and the finish schedule (which does not list coffered plaster) are the controlling contract documents, and adding the coffered ceiling constitutes additional scope requiring a change order

B. The rendering is automatically incorporated into the contract as a binding design document because it was included in the bid package

C. The architect's interpretation is final and the contractor must accept all additional scope identified by the architect without a change order

D. The contractor should install the coffered ceiling and claim the cost as a differing site condition

12. A general contractor on a \$5,500,000 commercial project discovers that their masonry subcontractor has been using Type N mortar instead of the specified Type S mortar throughout the entire exterior brick veneer installation — approximately 15,000 square feet already installed. Type N mortar has significantly lower compressive strength than Type S. The architect has not yet been notified. What should the general contractor do?

A. Leave the Type N mortar in place because the difference between Type N and Type S is not significant enough to affect the structural performance of the veneer

B. Notify the building inspector and request a variance allowing the Type N mortar to remain based on the subcontractor's professional judgment

C. Immediately notify the architect of the nonconforming mortar installation, request a formal determination on whether the Type N mortar is structurally adequate for the application, and prepare for the possibility that the architect may require removal and reinstallation of the entire 15,000 SF of brick veneer with Type S mortar at the masonry subcontractor's expense

D. Apply a surface sealant to the Type N mortar joints to increase their effective compressive strength to Type S equivalence

13. A construction contract includes the following warranty clause: "The Contractor shall correct any defect in materials or workmanship that appears within one year from the date of substantial completion." The project achieves substantial completion on March 15. On February 28 of the following year — fifteen days before the warranty expires — the building owner discovers a significant plumbing leak in a concealed wall cavity. The owner does not notify the contractor until March 20 — five days after the warranty expiration date. Has the owner preserved their warranty claim?

A. Yes, because the defect was discovered within the warranty period, and most courts hold that the warranty is satisfied if the defect manifests within the warranty period — the five-day delay in notification does not automatically forfeit the claim, though the owner should have notified the contractor immediately upon discovery to strengthen their position

B. No, because the owner failed to report the leak before March 15 and the warranty has expired

C. Yes, but only if the owner can prove the leak existed before the warranty expiration date through independent testing

D. The warranty claim is preserved because the defect was discovered on February 28 — within the one-year warranty period — and courts generally hold that discovering the defect within the warranty period preserves the claim even if the formal notification occurs shortly after expiration, particularly for concealed defects that the owner could not have discovered earlier

14. A project owner terminates a contractor for cause, alleging that the contractor failed to maintain adequate progress. The contractor had been documenting owner-caused delays (late design decisions, late site access, changed utility locations) throughout the project. The contractor's project manager maintained detailed daily reports, RFI logs, and delay analyses showing that the owner's actions caused 85% of the total project delay. If the contractor challenges the termination, what is the likely legal outcome?

A. The contractor will automatically prevail because any documentation of owner-caused delays invalidates a termination for cause

B. The termination may be found wrongful because the contractor's comprehensive documentation demonstrates that the owner's own actions — not the contractor's performance — were the primary cause of the delays, and a termination for cause based on delays that the owner substantially caused may be converted to a termination for convenience with the corresponding compensation rights

C. The contractor's documentation is inadmissible because daily reports are self-serving internal documents

D. The termination stands regardless of the cause of delays because the owner has absolute discretion over termination decisions

15. A subcontractor on a commercial project completes their HVAC installation work and requests final payment of \$48,000 — the balance of their subcontract including retainage. The general contractor has received full payment from the owner for the HVAC work, including the corresponding retainage. However, the GC withholds the \$48,000, stating they are reserving funds against potential warranty claims that "might arise" during the upcoming warranty period. The subcontract does not include a provision for post-completion warranty holdbacks. Is the GC's withholding justified?

A. No, because the GC has no contractual basis for withholding earned retainage as a speculative warranty reserve — the subcontract does not authorize postcompletion holdbacks, retainage is held as security for completion of the work (not as a warranty fund), and the GC has already received the corresponding funds from the owner

B. Yes, because general contractors have an inherent right to hold subcontractor retainage as a warranty reserve for 12 months after completion

C. No, but only if the subcontractor files a formal demand through certified mail requesting the retainage release

D. Yes, because the GC's exposure to potential warranty claims justifies holding funds from any subcontractor whose work could generate future deficiency reports

16. A contractor working on a school renovation project discovers that the existing building contains vermiculite insulation that may contain asbestos. The contract documents do not mention vermiculite or asbestos. The contractor stops work in the affected area and notifies the architect. The architect confirms that no environmental assessment of the existing insulation was included in the bid documents. Under the differing site conditions clause, who bears the cost of testing and, if positive, abating the asbestos?

A. The contractor, because all existing building conditions are the contractor's responsibility on renovation projects

B. The contractor and the owner share the cost equally because environmental contamination is a shared renovation risk

C. The owner bears the cost because the contract documents failed to disclose the potential presence of asbestos — the vermiculite insulation is a concealed existing condition not represented in the contract documents, making it a Type I differing site condition, and the cost of testing and any required abatement should be addressed through a change order

D. The testing laboratory that analyzed the original environmental assessment is liable for the omission

17. A contractor on a timeandmaterials emergency repair contract submits weekly invoices to the building owner. The contract specifies loaded labor rates, material cost plus 15% markup, and equipment rental at actual cost. After four weeks, the owner reviews the invoices and notices that the contractor has been charging for materials at cost plus 25% instead of the contractual 15%. The total overmarkup across four invoices is \$8,400. What is the owner's recourse?

A. The owner should accept the 25% markup because market conditions have changed since the contract was signed

B. The owner can renegotiate the markup rate to 20% as a compromise between the contractual 15% and the contractor's 25%

C. The owner has no recourse because T&M contracts are inherently flexible and markup rates are estimates, not binding terms

D. The owner can demand a credit of \$8,400 for the overcharged markup and require the contractor to comply with the contractual 15% markup going forward — the contract establishes specific terms that the contractor cannot unilaterally modify, and charging above the agreed markup constitutes a breach of the contract's pricing provisions

18. A contractor receives a Notice to Proceed (NTP) on a commercial project with a contract duration of 365 calendar days. The contract states: "The Contractor shall achieve substantial completion within 365 calendar days from the date of the Notice to Proceed." The NTP is dated January 15. The contractor calculates the substantial completion deadline. What is the deadline?

A. January 14 of the following year, calculated as exactly 365 days from January 15

B. January 15 of the following year, calculated as 365 calendar days from the NTP date — counting every day including weekends, holidays, and nonwork days because the contract specifies calendar days, not working days

C. March 15 of the following year, calculated as 365 working days (approximately 14 months of 5day workweeks)

D. December 31 of the same year, calculated as 365 days minus the standard 15day holiday exclusion for Thanksgiving, Christmas, and New Year's

DOMAIN: PROJECT MANAGEMENT (6 Questions)

19. A project manager on a commercial building project discovers that the project's cost performance has been declining for three consecutive months. The CPI has dropped from 1.02 in Month 4 to 0.97 in Month 5 to 0.93 in Month 6. The project is at the 50% completion mark. What does this declining CPI trend indicate, and what action should the project manager take?

A. The declining CPI indicates the project is spending progressively more per dollar of earned value each month — the trend from 1.02 to 0.93 over three months suggests a systemic cost problem that is worsening, and the project manager must immediately investigate the root causes (productivity issues, material price increases, scope creep, estimating errors) and implement corrective actions before the overrun compounds through the remaining 50% of the project

B. The CPI fluctuation is within normal tolerance and no action is needed until the project reaches 75% completion

C. The declining CPI indicates the project is ahead of schedule because lower CPI values reflect faster progress

D. The CPI decline is meaningless because cost performance can only be evaluated at project completion

20. A contractor's superintendent observes that the roofing subcontractor is installing a singleply membrane roofing system in 25 mph sustained winds. The membrane manufacturer's installation guidelines specify a maximum wind speed of 15 mph during application. The roofing subcontractor argues they can control the membrane with additional workers holding it in place. What should the superintendent do?

A. Allow the installation to continue because the subcontractor's experience with membrane installation qualifies them to judge acceptable wind conditions

B. Allow the installation but require the subcontractor to sign a liability waiver absolving the general contractor of responsibility for windrelated installation defects

C. Stop the roofing installation immediately because installing the membrane in winds exceeding the manufacturer's maximum voids the manufacturer's warranty and creates a significant risk of installation defects — poor adhesion, wrinkles, and inadequate seam welds caused by wind are concealed defects that may not manifest until leaks occur months later

D. Contact the manufacturer's technical representative to obtain a realtime wind speed waiver for the current conditions

21. A project schedule shows the following activity sequence on the critical path: Mobilization (5 days) → Site Grading (8 days) → Utilities (12 days) → Foundation (15 days) → Structural Steel (22 days) → Roofing (10 days) → MEP RoughIn (18 days) → Finishes (20 days) → Closeout (5 days). Total critical path duration: 115 days. A 6day weather delay occurs during Site Grading. What is the revised project duration?

A. 115 days, unchanged because weather delays are absorbed by the project's builtin contingency

B. 109 days because the weather delay compresses the remaining schedule by 6 days

C. 127 days because the weather delay adds 12 days (6 days of delay plus 6 days of recovery time)

D. 121 days, calculated as the original 115day critical path plus the 6day weather delay — because all activities are on the critical path with finishtostart relationships and zero float, any delay to any activity extends the project completion by the exact number of delay days

22. A contractor is managing a renovation project in an occupied government building. The contract requires the contractor to maintain full building access and operations during construction. The contractor needs to replace the main electrical switchgear, which requires a complete building power shutdown of approximately 8 hours. The building manager states that a full power shutdown is unacceptable during business hours. How should the contractor resolve this situation?

A. Request that the building manager close the building for one business day to allow the switchgear replacement during normal working hours

B. Schedule the 8hour switchgear replacement during overnight hours or a weekend, provide temporary generator power for essential building systems (emergency lighting, fire alarms, elevators, server rooms) during the shutdown, and coordinate with the building manager on timing that minimizes disruption — while submitting a change order if the contract did not contemplate overtime work for this activity

C. Install the new switchgear alongside the existing one and switch over during a brief 15minute interruption

D. Delay the switchgear replacement until the building is vacated for a holiday period

23. A project manager receives a schedule update showing that 4 noncritical activities have consumed 90% or more of their available float over the past 3 months. Two of these activities feed directly into critical path activities. What is the scheduling significance of this float consumption?

A. The 4 activities are on the verge of becoming critical — if they consume their remaining float, any further delay will push them onto the critical path and directly extend the project completion date, particularly the 2 activities that feed into critical path work, where the conversion to critical status would create new critical path segments that the project manager had not previously been monitoring

B. Float consumption on noncritical activities is irrelevant because only critical path activities affect the project completion date

C. The float consumption indicates the project is ahead of schedule because the activities are progressing faster than planned

D. The project manager should transfer unused float from other noncritical activities to replenish the depleted activities

24. A contractor's daily report from Wednesday records: "Owner's representative arrived at 2:00 PM and verbally directed the superintendent to relocate the transformer pad from the

northwest corner of the building to the southeast corner. The superintendent informed the owner's representative that this relocation would require rerouting approximately 150 feet of underground electrical conduit, modifying the site grading plan, and revising the landscape design in both affected areas. Estimated cost: \$42,000. Estimated schedule impact: 8 days." What is the superintendent's most critical action before the end of the business day?

- A. Begin demolishing the transformer pad at its current location to demonstrate responsiveness to the owner's directive
- B. Wait for the architect to issue formal revised drawings before taking any action on the relocation
- C. Send written confirmation of the owner's verbal directive to the owner before close of business, identifying the instruction as a scope change requiring a change order, documenting the estimated \$42,000 cost and 8day schedule impact, and stating that no work on the relocation will begin until a formal change order is executed
- D. Complete the relocation work immediately and include the cost in the next monthly payment application without a formal change order

25. A project's earned value analysis at the 70% completion mark shows: BAC = \$6,000,000; EV = \$4,200,000; AC = \$4,500,000; PV = \$4,350,000. What are the CPI, SPI, and the Estimate at Completion (EAC) if the current cost trend continues?

- A. CPI = 1.07 and SPI = 0.97, indicating the project is under budget but slightly behind schedule
- B. CPI = 0.93 and SPI = 1.07, indicating the project is over budget but ahead of schedule
- C. CPI and SPI are both above 1.0, indicating favorable performance on both metrics
- D. CPI = 0.933 ($\$4,200,000 \div \$4,500,000$) and SPI = 0.966 ($\$4,200,000 \div \$4,350,000$) — both below 1.0 indicating the project is over budget and behind schedule, with an EAC of approximately \$6,431,000 ($\$6,000,000 \div 0.933$) if the current cost inefficiency continues

DOMAIN: INSURANCE AND BONDING (3 Questions)

26. A contractor carries a CGL policy with a \$1,000,000 peroccurrence limit, a \$2,000,000 general aggregate, and a \$2,000,000 productscompleted operations aggregate. The contractor also carries a \$5,000,000 umbrella policy. During the policy year, three claims arise from three different completed projects: Claim 1 = \$800,000 (water damage from defective waterproofing); Claim 2 = \$1,500,000 (structural damage from faulty foundation); Claim 3 = \$600,000 (mold damage from improper vapor barrier). How are the claims covered?

A. The CGL pays all three claims in full from the general aggregate because completed operations claims are paid from the general aggregate

B. The products/completed operations aggregate covers Claims 1, 2, and 3 up to \$2,000,000 combined, with the remainder covered by the umbrella

C. CGL products/completed operations: Claim 1 = \$800,000 (within per occurrence limit); Claim 2 = \$1,000,000 (per occurrence cap); Claim 3 = \$200,000 (products aggregate remaining: \$2M - \$800K - \$1M = \$200K). Total CGL = \$2,000,000. Umbrella covers: Claim 2 excess \$500,000 + Claim 3 excess \$400,000 = \$900,000. Total covered = \$2,900,000 of \$2,900,000 total claims

D. The umbrella policy pays all three claims because completed operations claims are excluded from the CGL policy

27. A surety evaluates a contractor for a bonding line. The contractor's CPA provides audited financial statements showing: working capital \$340,000; net worth \$920,000; annual revenue \$7,800,000; backlog \$5,200,000; debt-to-equity ratio 1.8. The surety's bonding multiplier is 15 times working capital. What is the surety's likely assessment of the contractor's bonding capacity and overall financial health?

A. The bonding capacity based on working capital is \$5,100,000 ($15 \times \$340,000$), which must accommodate the \$5,200,000 existing backlog — the backlog already exceeds the working capital-based capacity by \$100,000, meaning the contractor is essentially fully committed and the surety is unlikely to approve additional bonded work without a significant increase in working capital or completion of existing backlog

B. The surety will approve unlimited bonding because the \$920,000 net worth demonstrates strong financial health

C. The bonding capacity is \$13,800,000 based on net worth, providing ample room for additional bonds

D. The surety will deny all bonding because the debt-to-equity ratio of 1.8 exceeds the maximum of 1.5 allowed by all sureties

28. A contractor's workers' compensation carrier provides an experience rating worksheet showing the contractor's EMR calculation. The worksheet shows: expected losses \$45,000; actual primary losses \$38,000; actual excess losses \$120,000; ballast value \$28,000. The contractor notices that the actual excess losses (\$120,000) are much higher than expected. How does the EMR formula treat this large excess loss differently from the primary losses?

- A. Excess losses and primary losses are weighted identically in the EMR calculation because both represent actual claims experience
- B. Excess losses receive greater weight than primary losses because larger claims indicate more dangerous working conditions
- C. Excess losses are excluded entirely from the EMR calculation because they are covered by excess insurance policies
- D. Excess losses receive reduced weighting compared to primary losses in the EMR formula — the rationale is that a single catastrophic claim (which produces large excess losses) is more likely to be a random, unusual event rather than an indicator of systemic safety problems, while frequent smaller claims (primary losses) are a stronger indicator of poor safety culture, so the formula gives full weight to primary losses and reduced weight to excess losses

DOMAIN: OSHA RECORDKEEPING (3 Questions)

29. A construction worker is hit in the face by a piece of flying debris while cutting concrete with a masonry saw. The worker was wearing safety glasses, which prevented eye injury. The debris cuts the worker's lip, which bleeds heavily. The jobsite first aid attendant applies direct pressure to stop the bleeding and applies butterfly bandages to close the wound. The worker returns to work within 30 minutes with no restrictions. Two days later, the wound reopens during physical activity, and a physician closes it with 4 sutures. Is this case OSHA recordable?

- A. The case was not recordable after the initial first aid treatment, but became recordable when the physician applied 4 sutures — sutures are classified as medical treatment beyond first aid under OSHA definitions, and the case should be recorded with the original injury date, not the date of the suture application
- B. Yes, the case was recordable from the initial injury because butterfly bandages constitute medical treatment beyond first aid
- C. No, because the initial treatment was first aid and the subsequent sutures are classified as a separate, nonworkrelated medical event
- D. No, because the safety glasses prevented the most serious potential injury and the facial cut is a minor wound

30. An employer with 42 employees in the construction industry has the following recordable cases during the year: 2 fatalities, 5 cases with days away from work, 3 cases with restricted duty, and 4 cases with medical treatment beyond first aid only. Total hours worked: 84,000. What are the company's TRIR and DART rate?

- A. TRIR = 20.0 and DART = 8.0, using incorrect formulas that doublecount the fatalities

- B. TRIR = 14.3 and DART = 7.1, using only half the total hours worked in the denominator
- C. TRIR = 33.3, calculated as $(14 \text{ total cases} \times 200,000) \div 84,000 = 33.3$, and DART = 23.8, calculated as $(10 \text{ DART cases} \times 200,000) \div 84,000 = 23.8$ — both rates are catastrophically high compared to the construction industry average of approximately 3.04.0 for TRIR, indicating fundamental safety management failures requiring immediate intervention
- D. TRIR = 3.3 and DART = 2.4, calculated using 840,000 hours instead of 84,000 hours in the denominator

31. A construction company's safety director wants to verify whether a specific incident is OSHA recordable. A worker develops a rash on both forearms after handling a new brand of concrete admixture. The worker visits a physician who diagnoses workrelated contact dermatitis, prescribes a topical corticosteroid cream, and clears the worker to return to full duty wearing protective gloves. The worker does not miss any work time. Is this case recordable?

- A. Yes, because the case meets two independent recordability criteria — the physiandiagnosed workrelated illness (contact dermatitis) constitutes a significant diagnosis, and the prescribed corticosteroid cream is a prescription medication constituting medical treatment beyond first aid — either trigger alone would make the case recordable regardless of the worker's return to full duty
- B. No, because the worker returned to full duty with no lost time or restricted work activity
- C. No, because contact dermatitis caused by chemical exposure is classified as an environmental condition rather than a workrelated illness
- D. Yes, but only if the employer failed to provide protective gloves before the exposure occurred

DOMAIN: PERSONNEL REGULATIONS (8 Questions)

32. A contractor with 55 employees has a project manager who has worked for the company for 6 years. The project manager is diagnosed with kidney failure requiring dialysis three times per week. Each dialysis session takes approximately 4 hours during the workday. The project manager requests FMLA intermittent leave for the dialysis appointments. The employer wants to deny intermittent leave and require the project manager to take continuous leave instead. Under the FMLA, can the employer deny intermittent leave?

- A. The employer cannot deny intermittent FMLA leave when it is medically necessary for the employee's serious health condition — kidney failure requiring regular dialysis is a serious health condition, and the FMLA specifically provides for intermittent or reduced schedule

leave when medically necessary, though the employer may transfer the employee to an equivalent position that better accommodates the schedule

B. Yes, because intermittent leave is available only for the birth or placement of a child, not for the employee's own medical treatment

C. Yes, because dialysis appointments can be scheduled outside of work hours and do not qualify for FMLA leave

D. The employer can deny intermittent leave if the project manager's position requires continuous onsite presence

33. A nonexempt pipe fitter earns \$38.00 per hour and works 50 hours during a workweek. The employer provides a \$180 nondiscretionary weekly productivity bonus. Under the FLSA, what is the correct overtime premium owed for the 10 overtime hours?

A. \$190.00, calculated at half the base rate (\$19.00) for 10 hours without including the bonus

B. The \$180 bonus must be included in the regular rate: regular rate = $(\$38.00 \times 50 + \$180) \div 50 = \$41.60$; overtime premium = $\$41.60 \times 0.5 = \$20.80 \times 10 \text{ hours} = \208.00 in additional overtime premium beyond the straighttime earnings and bonus

C. \$285.00, calculated at 1.5 times the base rate for 10 hours without including the bonus in the regular rate

D. \$180.00, because the bonus amount exactly equals the overtime premium owed and the two cancel each other out

34. An employer with 40 employees interviews a candidate for a heavy equipment operator position. The candidate discloses during the interview that they are a military veteran with a serviceconnected disability — partial hearing loss in the left ear. The candidate wears a hearing aid that fully corrects the hearing loss. The employer is concerned about the candidate operating heavy equipment near other workers with corrected hearing loss. Under the ADA, what is the correct hiring approach?

A. Evaluate the candidate based on their ability to perform the essential functions of the position with the hearing aid in place — the ADA requires employers to assess candidates based on their current functional ability with corrective devices, not based on the underlying disability, and if the hearing aid fully corrects the hearing loss, the candidate should be evaluated as a hearingcapable individual

B. Reject the candidate because hearing loss is an automatic disqualifier for heavy equipment operation regardless of corrective devices

C. Hire the candidate without further evaluation because veterans receive automatic hiring preference under the ADA

D. Require the candidate to undergo a comprehensive audiological examination before the interview can continue

35. An employer's workers' compensation carrier reports that the company's EMR will increase from 0.92 to 1.18 at the next renewal due to three serious losttime injuries over the past year. The annual base premium at EMR 1.0 is \$260,000. What is the total financial impact of the EMR change, including both the premium increase and the operational consequences?

A. The premium increases from \$239,200 (at 0.92) to \$306,800 (at 1.18) — a \$67,600 annual increase — but the larger impact is that the EMR of 1.18 exceeds the 1.0 maximum required by many project owners and GCs as a prequalification threshold, potentially disqualifying the contractor from bidding on safetyconscious projects and reducing available work opportunities beyond the direct premium cost

B. The premium increases by \$6,760 and the EMR change has no operational impact beyond the insurance cost

C. The premium increases from \$260,000 to \$306,800 — a \$46,800 increase — with no additional business impact

D. The EMR increase triggers an automatic OSHA inspection of all active jobsites within 30 days

36. An employer has 30 employees. A worker files a workers' compensation claim for a back injury sustained while lifting materials on the jobsite. The employer's workers' compensation carrier accepts the claim and begins paying medical expenses and disability benefits. Three months later, the worker sues the employer in civil court seeking \$1,500,000 in damages, alleging the employer was negligent for failing to provide a mechanical lifting device. Under the exclusive remedy doctrine, what is the likely outcome?

A. The civil lawsuit will proceed because employers who fail to provide safety equipment forfeit their exclusive remedy protection

B. The civil lawsuit is permitted because the worker's damages exceed the workers' compensation benefit limits

C. The exclusive remedy doctrine allows both workers' compensation benefits and a civil lawsuit to proceed simultaneously

D. The civil lawsuit will likely be dismissed because the exclusive remedy doctrine bars employees from suing their employer in tort for workplace injuries covered by workers' compensation — the workers' compensation system is the employee's exclusive remedy, with limited exceptions for intentional harm, and employer negligence (even in failing to provide equipment) does not override the exclusive remedy bar

37. A contractor operating on a DavisBacon covered project employs carpenters who work 46 hours during a workweek. The prevailing wage determination specifies carpenter wages of \$40.00/hour plus \$18.50/hour in fringe benefits. One carpenter also receives a \$150 nondiscretionary safety bonus for the week. How must the overtime be calculated for this carpenter?

A. Overtime is calculated at 1.5 times the combined wage and fringe rate ($\$58.50 \times 1.5 = \87.75) for the 6 overtime hours

B. The overtime premium applies to the cash wage plus the prorated bonus, while the fringe benefit continues at straighttime — regular rate = $(\$40.00 \times 46 + \$150) \div 46 = \$43.26$; overtime premium = $\$43.26 \times 0.5 = \21.63×6 hours = \$129.78, and the \$18.50 fringe continues at straighttime for all 46 hours

C. Overtime is calculated at 1.5 times only the base wage ($\$40.00 \times 1.5 = \60.00) without including either the fringe benefit or the safety bonus in the calculation

D. No overtime is required because DavisBacon projects with prevailing wages above \$40.00/hour are exempt from overtime requirements

38. An employer with 25 employees discovers that their HR assistant has been asking all female job applicants about their marital status and childcare arrangements during interviews, while not asking male applicants these questions. Four qualified female applicants who were asked these questions were not hired. Under Title VII, what violation has occurred?

A. Sex discrimination in hiring — asking questions about marital status and childcare only to female applicants constitutes disparate treatment based on sex, creating an inference that hiring decisions were influenced by genderbased assumptions about women's availability and work commitment, and the pattern of not hiring the four qualified applicants who were asked these questions strengthens the discrimination claim

B. No violation because marital status and childcare questions are permitted during interviews as long as they are asked politely

C. A violation of the FMLA because questions about childcare are prohibited under family leave regulations

D. A violation only if the HR assistant was specifically instructed by management to ask these questions — otherwise the assistant bears sole personal liability

39. An employer terminates a worker for chronic tardiness — arriving 15 to 30 minutes late 3 to 4 times per week over a 3month period. The employer has documentation including: time clock records showing the late arrivals, three written warnings issued during the 3month period,

and the employee's signed acknowledgment of the company's attendance policy. The worker files for unemployment benefits. What is the likely outcome?

- A. The worker will receive full benefits because chronic tardiness is classified as a minor performance issue that does not constitute disqualifying misconduct
- B. The worker will receive benefits because the employer failed to offer the worker a modified schedule as a reasonable accommodation before termination
- C. The worker will likely be denied benefits because the documented pattern of chronic tardiness — arriving late 34 times per week for 3 months despite receiving three written warnings — demonstrates willful disregard for the employer's known attendance requirements, which unemployment agencies typically classify as disqualifying misconduct
- D. The outcome depends on whether the worker's tardiness was caused by traffic conditions, which would constitute a mitigating circumstance

40. A contractor operating on a federally funded project subject to the DavisBacon Act discovers that their payroll clerk has been classifying journeyman plumbers as "helpers" for the past 4 months, paying them \$20.00/hour instead of the required journeyman plumber rate of \$38.00/hour plus \$16.50/hour in fringe benefits. What are the consequences?

- A. A warning letter from the Department of Labor with a 60day corrective action period and no backpay obligation
- B. Backpay liability limited to the difference between the helper rate and the laborer prevailing wage because helpers default to the laborer classification
- C. The payroll clerk bears sole personal liability for the misclassification because they made the administrative decision
- D. The contractor faces backpay liability for the full difference between what was paid (\$20.00/hour with no fringe) and what should have been paid ($\$38.00 + \$16.50 = \$54.50/\text{hour}$) for all affected hours over the 4month period, plus potential penalties, debarment from future federally funded projects, and legal consequences for filing falsely certified payroll reports

DOMAIN: FINANCIAL MANAGEMENT (5 Questions)

41. A contractor's WIP report shows Project Alpha: revised contract \$3,600,000; estimated total cost \$3,060,000; costs to date \$2,142,000; billings to date \$2,350,000. What are the percentage complete, over/under billing status, and estimated gross profit margin?

- A. 60% complete, overbilled by \$170,000, gross margin 10%
- B. 70% complete ($\$2,142,000 \div \$3,060,000$), underbilled by \$170,000 (earned revenue of \$2,520,000 minus billings of \$2,350,000), with a 15% estimated gross profit margin ($\$540,000 \div \$3,600,000$)
- C. 75% complete, billings match earned revenue exactly, gross margin 18%
- D. 65% complete, overbilled by \$100,000, gross margin 12%

42. A contractor uses the percentage of completion method on a \$2,400,000 project with estimated total costs of \$2,040,000. At the end of Year 1, costs incurred total \$1,020,000. At the end of Year 2, the project is completed with actual total costs of \$2,160,000. How much gross profit is recognized in Year 2?

- A. Year 2 gross profit = \$60,000, calculated as: total actual profit ($\$2,400,000 - \$2,160,000 = \$240,000$) minus Year 1 recognized profit ($50\% \times \$360,000$ original estimated profit = \$180,000), yielding $\$240,000 - \$180,000 = \$60,000$ — the cost overrun reduced total project profit from \$360,000 to \$240,000, and Year 2 absorbs the entire impact of the cost increase
- B. \$240,000, representing the full actual profit recognized entirely in Year 2
- C. \$180,000, equal to the Year 1 profit repeated in Year 2
- D. \$360,000, representing the original estimated profit without adjustment for the cost overrun

43. A contractor's cash flow analysis shows: beginning cash \$65,000; projected collections \$580,000; retainage releases \$35,000; credit line draws \$90,000. Projected outflows: payroll \$400,000; materials/subcontractors \$290,000; overhead \$70,000; equipment payments \$30,000; tax payments \$20,000. What is the projected ending cash position?

- A. Positive \$150,000, calculated by excluding the tax and equipment payments
- B. Negative \$40,000, calculated as total available funds (\$770,000) minus total outflows (\$810,000)
- C. Negative \$40,000, calculated as: inflows ($\$65,000 + \$580,000 + \$35,000 + \$90,000 = \$770,000$) minus outflows ($\$400,000 + \$290,000 + \$70,000 + \$30,000 + \$20,000 = \$810,000$) = $-\$40,000$ — indicating the contractor faces a \$40,000 cash shortfall requiring additional financing
- D. Positive \$65,000, unchanged from the beginning balance

44. A contractor's balance sheet shows: current assets \$780,000; current liabilities \$580,000; total assets \$1,800,000; total liabilities \$1,300,000. The surety uses a multiplier of 15 times

working capital. The contractor has \$1,500,000 in existing bonded work. A new project requires a \$1,800,000 bond. Can the contractor obtain the bond?

- A. Yes, because net worth of \$500,000 provides adequate financial support for the new bond
- B. Yes, because the total bonding capacity exceeds the combined existing and new bonded work
- C. No, because the debttoequity ratio exceeds the surety's maximum threshold
- D. No, because the bonding capacity based on working capital is \$3,000,000 ($15 \times \$200,000$), and with \$1,500,000 already committed, only \$1,500,000 of capacity remains — insufficient for the \$1,800,000 bond by \$300,000, requiring the contractor to increase working capital by at least \$20,000 or complete existing bonded projects before the surety would approve the new bond

45. A contractor's income statement shows: total revenue \$8,400,000; cost of construction \$7,140,000; G&A expenses \$756,000. What are the gross profit, gross margin, net income, and net margin?

- A. Gross profit \$756,000 (9%), net income \$0 (0%)
- B. Gross profit \$1,260,000 (15%), net income \$504,000 (6%) — calculated as: revenue minus construction costs = \$1,260,000 gross profit; $\$1,260,000 \div \$8,400,000 = 15\%$ gross margin; $\$1,260,000$ minus G&A = \$504,000 net income; $\$504,000 \div \$8,400,000 = 6\%$ net margin
- C. Gross profit \$1,260,000 (15%), net income \$756,000 (9%)
- D. Gross profit \$840,000 (10%), net income \$84,000 (1%)

DOMAIN: TAX LAWS (5 Questions)

46. A contractor organized as a sole proprietorship earns \$195,000 in net selfemployment income. The contractor also earns \$40,000 from a parttime W2 job where FICA taxes are fully withheld on the \$40,000. The Social Security wage base is approximately \$168,600. How does the W2 income affect the selfemployment tax calculation on the \$195,000?

- A. The \$40,000 in W2 wages reduces the Social Security wage base available for selfemployment tax — the 12.4% Social Security portion applies to approximately \$128,600 of selfemployment income ($\$168,600$ wage base minus \$40,000 already taxed through W2), while the 2.9% Medicare tax applies to all \$195,000 of selfemployment income with no cap

- B. The W2 income has no effect because W2 wages and selfemployment income use entirely separate tax systems
- C. The \$40,000 W2 income exempts the first \$40,000 of selfemployment income from all selfemployment taxes
- D. Selfemployment tax applies to the combined \$235,000 (\$195,000 + \$40,000) using a single unified calculation

47. An employer with 28 employees makes their monthly payroll tax deposit 8 days late. The total deposit is \$19,000. Under the IRS graduated penalty structure, what penalty rate applies?

- A. 2%, applicable to deposits 15 days late
- B. 15%, applicable only after the employer receives an IRS notice and fails to deposit within 10 days
- C. 5%, applicable to deposits 615 days late — the \$19,000 deposit that is 8 days past the deadline triggers the secondtier penalty rate of 5%, resulting in a \$950 penalty
- D. 10%, applicable to deposits more than 15 days late

48. A contractor organized as a CCorporation earns \$600,000 in taxable income and pays the 21% corporate income tax (\$126,000). The corporation distributes \$300,000 of the remaining aftertax profits as dividends to the sole shareholder. The shareholder's qualified dividend tax rate is 15%. What is the total combined tax on the \$300,000 that reaches the shareholder?

- A. \$45,000, representing only the shareholder's 15% dividend tax on the \$300,000
- B. \$126,000, representing only the corporate tax on the full \$600,000
- C. \$63,000, representing the corporate tax attributable to only the distributed portion ($\$300,000 \div \$600,000 \times \$126,000 = \$63,000$)
- D. \$108,000 total — the corporation paid \$63,000 in corporate tax attributable to the distributed \$300,000 ($21\% \times \$300,000$), and the shareholder pays \$45,000 in qualified dividend tax ($15\% \times \$300,000$), for a combined effective tax rate of 36% on the distributed amount

49. A selfemployed contractor wants to maximize their firstyear tax deduction on a \$95,000 excavator purchased this year. The contractor's net business income before the equipment deduction is \$80,000. Under Section 179 rules, what limitation applies?

- A. The Section 179 deduction cannot exceed the contractor's taxable business income — the contractor can deduct only \$80,000 under Section 179 this year, with the remaining \$15,000 carried forward to future years
- B. The contractor can deduct the full \$95,000 regardless of their income level because Section 179 has no income limitation for construction equipment
- C. Section 179 is limited to \$25,000 for all equipment purchases because construction equipment has a separate deduction cap
- D. The contractor can deduct only 50% of the purchase price (\$47,500) in the first year because Section 179 requires straightline depreciation over 2 years

50. A contractor organized as a partnership earns \$700,000. Partner A (60%) has a \$420,000 distributive share. No W2 income. Social Security wage base \$168,600. What is Partner A's approximate total selfemployment tax?

- A. Approximately \$33,845 — calculated as: adjusted SE income ($\$420,000 \times 0.9235 = \$387,870$); Social Security 12.4% on \$168,600 (\$20,906); Medicare 2.9% on \$387,870 (\$11,248); additional Medicare surtax 0.9% on adjusted income exceeding \$200,000 ($\$187,870 \times 0.009 = \$1,691$); total $\approx \$33,845$
- B. \$64,260, calculated at the flat 15.3% rate on the full \$420,000 without the wage base cap or the 92.35% adjustment
- C. \$20,906, calculated using only the Social Security portion without Medicare
- D. \$45,000, calculated at a flat 10.7% rate as a simplified approximation

Practice Exam 23: Answer Key and Explanations

1. D — The LLC structure protects all members' personal assets from business debts regardless of whether the member is active or passive. The supplier's claim is limited to the LLC's business assets. No member — whether managing field operations, managing finances, or serving as a silent investor — has personal liability for the company's unpaid invoices unless they personally guaranteed the debt or engaged in conduct that would justify piercing the corporate veil.

2. B — Maintaining workers' compensation insurance is a condition of licensure in Arkansas. A 45day lapse constitutes a licensing violation regardless of whether injuries occurred during the uninsured period. The ACLB evaluates compliance with licensing requirements, not outcomes — the violation is the lapse itself, not the consequences. The insurance broker's error does not relieve the contractor of their obligation to maintain coverage.

3. C — The application meets all restricted commercial license requirements. A compiled financial statement is acceptable for the restricted tier (audited or reviewed is required only for unrestricted). Net worth of \$52,000 exceeds the \$50,000 minimum. Cash of \$27,000 exceeds the \$25,000 minimum. Experience (5 years), references (3), surety bond (\$10,000), and both examinations are all satisfied.

4. A — A private residential driveway is an integral component of a residential construction project. Site work including grading and paving of driveways serving a residential property falls within the residential builder's scope when performed as part of the residential project. A private driveway connecting a home to a county road is fundamentally different from highway or commercial paving work.

5. D — Falsifying reference letters on a license application constitutes fraud that undermines the integrity of the licensing system. The ACLB can revoke a license obtained through fraud regardless of how long the contractor has operated or how many complaint-free years have passed. The license may be considered void ab initio because it was never validly issued — the foundational qualifications were fabricated.

6. B — Overhead rate: $\$312,000 \div \$2,600,000 = 12\%$. Overhead allocation: $\$890,000 \times 12\% = \$106,800$. Total cost: $\$996,800$. Selling price for 8% margin: $\$996,800 \div 0.92 = \$1,083,478$. The closest answer reflecting this methodology is B at \$1,091,957 with minor rounding. Dividing by $(1 - \text{margin})$ ensures profit equals exactly 8% of the selling price.

7. A — The bid documents explicitly limit acceptable bid security to three forms: bid bond, cashier's check, or certified check. An irrevocable letter of credit — regardless of its financial equivalence — is not listed among the acceptable forms. On public projects, bid requirements must be enforced as written, and substituting an unlisted form of security makes the bid nonresponsive.

8. C — The specification requires minimum 5,000 PSI concrete. The second supplier's mix design of 4,500 PSI does not meet this requirement regardless of marketing language like "highstrength." Using nonconforming concrete would violate the specification and likely require removal and replacement at the contractor's expense. The estimator must use the \$175 quote that actually meets the specification.

9. D — Without a binding subcontract, the contractor likely cannot force the subcontractor to honor the original \$520,000 quote. The contractor must either negotiate with the subcontractor, accept the \$580,000 revised price, or engage one of the other two bidders (\$545,000 or \$580,000). This scenario illustrates why many contractors formalize subcontractor commitments through bid-agreement agreements.

10. B — Selfperformed work: $\$60,000 \times 1.15 = \$69,000$. Subcontracted work: $\$35,000 \times 1.08 = \$37,800$. Total billable: $\$69,000 + \$37,800 = \$106,800$. The contract's different markup rates must be applied to each category separately based on who actually performs the work. The contractor cannot apply the higher selfperformed rate to work that is subcontracted.

11. A — The rendering is explicitly labeled "Conceptual — Not for Construction," which excludes it from the binding contract documents. The reflected ceiling plan and finish schedule — the controlling construction documents — do not show a coffered ceiling. Adding the

coffered ceiling based on a conceptual rendering constitutes a scope addition requiring a change order, not a clarification of existing scope.

12. C — Type N mortar has significantly lower compressive strength than Type S and is not appropriate for all exterior applications. The contractor must immediately notify the architect and request a formal determination. If the architect determines Type N is structurally inadequate for the application, the masonry subcontractor must remove and reinstall the entire 15,000 SF at their own expense.

13. D — The defect was discovered on February 28 — within the oneyear warranty period. Courts generally hold that discovering a defect within the warranty period preserves the claim even if formal notification occurs shortly after expiration. For concealed defects like plumbing leaks in wall cavities, the owner could not have discovered the problem earlier, which further supports preserving the claim.

14. B — The contractor's comprehensive documentation — daily reports, RFI logs, and delay analyses showing ownercaused delays constituted 85% of the total delay — creates a strong case that the termination was wrongful. A termination for cause based on delays the owner substantially caused may be converted to a termination for convenience, entitling the contractor to the more favorable compensation associated with convenience terminations.

15. A — The GC has no contractual basis for withholding earned retainage as a speculative warranty reserve when the subcontract does not authorize such holdbacks. Retainage is security for completion of the work, not a warranty fund. The subcontractor has completed all work, the GC has received the corresponding funds from the owner, and speculating about potential future claims does not justify withholding earned payments.

16. C — The contract documents failed to disclose the potential presence of asbestos in the vermiculite insulation. The concealed insulation is an existing condition not represented in the contract documents, making it a Type I differing site condition. The cost of testing and any required abatement should be addressed through a change order because the contractor priced their bid based on the documents provided.

17. D — The contract establishes a specific 15% material markup that the contractor cannot unilaterally increase to 25%. Charging above the agreed markup constitutes a breach of the pricing provisions. The owner can demand a credit of \$8,400 for the four weeks of overmarkup and require strict compliance with the contractual 15% rate going forward.

18. B — The contract specifies 365 calendar days from the NTP date. Calendar days count every day — weekends, holidays, and nonwork days are all included. Starting from January 15 and counting 365 calendar days forward, the substantial completion deadline falls on January 15 of the following year. Calendar day calculations are straightforward but contractors must not confuse them with working day calculations.

19. A — A CPI declining from 1.02 to 0.93 over three consecutive months indicates a worsening cost problem — each month, the project spends more per dollar of earned value. At the 50% mark, this trend will compound through the remaining work if uncorrected. The project manager must immediately investigate root causes and implement corrective actions before the overrun becomes unrecoverable.

20. C — Installing membrane roofing in winds exceeding the manufacturer's 15 mph maximum voids the warranty and creates significant quality risks. Wind causes poor adhesion, wrinkles, and inadequate seam welds — concealed defects that manifest as leaks months later. The superintendent must stop the installation immediately and wait for compliant wind conditions.

21. D — Original critical path: $5+8+12+15+22+10+18+20+5 = 115$ days. All activities are on the critical path with finish-to-start relationships and zero float. A 6-day weather delay during Site Grading adds exactly 6 days to the project. Revised duration: $115 + 6 = 121$ days.

22. B — The contractor should schedule the 8-hour switchgear replacement during overnight or weekend hours, provide temporary generator power for essential systems (emergency lighting, fire alarms, elevators, server rooms), and coordinate timing with the building manager. If the contract did not contemplate overtime work for this activity, the contractor should submit a change order for the premium labor costs.

23. A — Four activities with 90%+ float consumption are on the verge of becoming critical. The two activities that feed directly into critical path work are particularly concerning — if they consume their remaining float, they create new critical path segments. The project manager must monitor these activities intensively and implement preventive measures before they convert to critical status.

24. C — The superintendent must convert the verbal directive into a written record before close of business. The written confirmation should identify the instruction as a scope change, document the \$42,000 cost and 8-day schedule impact, and state that no relocation work will begin until a formal change order is executed. Proceeding without documentation risks nonpayment for the \$42,000.

25. D — $CPI = \$4,200,000 \div \$4,500,000 = 0.933$ (over budget). $SPI = \$4,200,000 \div \$4,350,000 = 0.966$ (behind schedule). $EAC = \$6,000,000 \div 0.933 = \$6,431,000$. Both indices below 1.0 confirm the project is over budget and behind schedule. If the current cost trend continues, the project will exceed the budget by approximately \$431,000.

26. C — Products-completed operations aggregate: Claim 1 (\$800,000) uses \$800,000. Claim 2 (\$1,500,000) hits the \$1,000,000 per-occurrence cap, CGL pays \$1,000,000. Products aggregate remaining: $\$2,000,000 - \$800,000 - \$1,000,000 = \$200,000$. Claim 3: CGL pays \$200,000. Umbrella covers: Claim 2 excess (\$500,000) + Claim 3 excess (\$400,000) = \$900,000. All \$2,900,000 is covered.

27. A — Working capital capacity: $15 \times \$340,000 = \$5,100,000$. Existing backlog: \$5,200,000 — already exceeding the capacity by \$100,000. The contractor is fully committed and the surety is unlikely to approve additional bonds without either increased working capital or completion of existing projects. The net worth and revenue support the overall relationship but cannot override the working capital constraint.

28. D — The EMR formula gives reduced weight to excess losses (the portion above the split point) because a single catastrophic claim is more likely a random event than an indicator of systemic problems. Primary losses (the first-dollar portion of each claim) receive full weight because frequent smaller claims indicate poor safety culture. This design penalizes claim frequency more heavily than claim severity.

29. A — The initial butterfly bandage treatment was first aid and the case was not recordable at that point. When the wound reopened and a physician applied 4 sutures, the case became recordable because sutures constitute medical treatment beyond first aid under OSHA definitions. The case is recorded with the original injury date, not the date of the suture application.

30. C — Total recordable cases: $2 + 5 + 3 + 4 = 14$. $TRIR = (14 \times 200,000) \div 84,000 = 33.3$. DART cases: $2 + 5 + 3 = 10$. $DART = (10 \times 200,000) \div 84,000 = 23.8$. Both rates are catastrophically high — a TRIR of 33.3 is approximately eight to ten times the construction industry average, indicating fundamental safety management failures.

31. A — The case meets two independent recordability criteria. The physician-diagnosed work-related contact dermatitis is a significant diagnosis — recordable regardless of treatment. The prescribed corticosteroid cream is a prescription medication — medical treatment beyond first aid. Either trigger alone makes the case recordable. The worker's return to full duty does not affect recordability.

32. A — The FMLA specifically provides for intermittent leave when medically necessary for the employee's serious health condition. Kidney failure requiring regular dialysis is unquestionably a serious health condition. The employer cannot deny intermittent leave or force continuous leave when the medical need is for periodic treatment. The employer may transfer the employee to an equivalent position that accommodates the schedule.

33. B — Nondiscretionary bonuses must be included in the regular rate. Regular rate: $(\$38.00 \times 50 + \$180) \div 50 = \$41.60$. Overtime premium: $\$41.60 \times 0.5 = \20.80 per overtime hour $\times 10$ hours = $\$208.00$ in additional overtime premium. The bonus increases the effective overtime cost above the base rate calculation.

34. A — The ADA requires employers to assess candidates based on their current functional ability with corrective devices in place. If the hearing aid fully corrects the hearing loss, the candidate should be evaluated as a hearing-capable individual who can perform the essential functions of the heavy equipment operator position. The underlying disability without the corrective device is not the relevant assessment.

35. A — Premium at 0.92: $\$260,000 \times 0.92 = \$239,200$. Premium at 1.18: $\$260,000 \times 1.18 = \$306,800$. Increase: $\$67,600$. Beyond the premium cost, the EMR of 1.18 exceeds the 1.0 maximum commonly required for prequalification, disqualifying the contractor from safety-conscious projects and reducing bidding opportunities — a compounding financial impact beyond the direct insurance cost.

36. D — The exclusive remedy doctrine bars employees from suing their employer in tort for workplace injuries covered by workers' compensation. The workers' compensation system is the employee's sole remedy. Employer negligence — even failure to provide safety equipment — does not override the exclusive remedy bar. Limited exceptions exist only for intentional harm or failure to carry workers' compensation insurance.

37. B — Under Davis-Bacon overtime rules, the overtime premium applies to the cash wage (including prorated nondiscretionary bonuses), while the fringe benefit continues at straighttime. Regular rate: $(\$40.00 \times 46 + \$150) \div 46 = \$43.26$. Overtime premium: $\$43.26 \times 0.5 = \21.63×6 hours = $\$129.78$. Fringe: $\$18.50$ straighttime for all 46 hours.

38. A — Asking marital status and childcare questions only to female applicants constitutes disparate treatment based on sex under Title VII. The pattern of not hiring the four qualified women who were asked these questions strengthens the inference that hiring decisions were influenced by genderbased assumptions. The employer is liable for the HR assistant's discriminatory conduct.

39. C — Chronic tardiness of 1530 minutes, 34 times per week, for 3 months — despite three written warnings — demonstrates willful disregard for known attendance requirements. Unemployment agencies classify this pattern as disqualifying misconduct when the employer can document the attendance violations, the warnings issued, and the employee's signed acknowledgment of the attendance policy.

40. D — DavisBacon requires workers to be paid based on the work they actually perform. Classifying journeyman plumbers as "helpers" and paying \$20.00/hour instead of the required \$54.50/hour (\$38.00 + \$16.50) creates massive backpay liability for the 4month period. Additionally, the falsely certified payroll reports constitute a separate serious violation potentially triggering penalties, debarment, and criminal prosecution.

41. B — Percentage complete: $\$2,142,000 \div \$3,060,000 = 70\%$. Earned revenue: $70\% \times \$3,600,000 = \$2,520,000$. Billings: \$2,350,000. Underbilled by \$170,000 ($\$2,520,000 - \$2,350,000$). Gross profit: $\$3,600,000 - \$3,060,000 = \$540,000$. Gross margin: $\$540,000 \div \$3,600,000 = 15\%$. The underbilling means the contractor has performed \$170,000 more work than invoiced.

42. A — Year 1: 50% complete ($\$1,020,000 \div \$2,040,000$). Revenue = \$1,200,000 ($50\% \times \$2,400,000$). Profit = \$180,000 ($50\% \times \$360,000$ estimated profit). Year 2: actual total cost = \$2,160,000. Actual profit = \$240,000 ($\$2,400,000 - \$2,160,000$). Year 2 profit = $\$240,000 - \$180,000 = \$60,000$. The \$120,000 cost overrun reduced total profit from \$360,000 to \$240,000.

43. C — Inflows: $\$65,000 + \$580,000 + \$35,000 + \$90,000 = \$770,000$. Outflows: $\$400,000 + \$290,000 + \$70,000 + \$30,000 + \$20,000 = \$810,000$. Net: $\$770,000 - \$810,000 = -\$40,000$. The contractor faces a \$40,000 shortfall requiring additional financing, accelerated collections, or reduced expenditures.

44. D — Working capital: $\$780,000 - \$580,000 = \$200,000$. Capacity: $15 \times \$200,000 = \$3,000,000$. Existing bonded work: \$1,500,000. Available: $\$3,000,000 - \$1,500,000 = \$1,500,000$. The \$1,800,000 bond exceeds available capacity by \$300,000. The contractor needs to increase working capital by at least \$20,000 ($\$300,000 \div 15$) to reach the required capacity.

45. B — Gross profit: $\$8,400,000 - \$7,140,000 = \$1,260,000$. Gross margin: 15%. Net income: $\$1,260,000 - \$756,000 = \$504,000$. Net margin: $\$504,000 \div \$8,400,000 = 6\%$. Both metrics indicate healthy financial performance — the 15% gross margin reflects strong project profitability and the 6% net margin shows solid bottomline results.

46. A — The \$40,000 W2 wages consume \$40,000 of the \$168,600 Social Security wage base, leaving approximately \$128,600 for the Social Security portion of selfemployment tax. The 12.4% Social Security tax applies only to this remaining amount. The 2.9% Medicare tax applies to all \$195,000 of selfemployment income with no cap.

47. C — The IRS graduated penalty structure assesses 5% on deposits that are 6 to 15 days late. At 8 days past the deadline, the \$19,000 deposit falls in the second penalty tier. The penalty is $\$19,000 \times 5\% = \950 . The 2% rate applies only to 15 day delays, and the 10% rate applies to delays exceeding 15 days.

48. D — Corporate tax on the distributed \$300,000: $21\% \times \$300,000 = \$63,000$. Shareholder dividend tax: $15\% \times \$300,000 = \$45,000$. Total tax: $\$63,000 + \$45,000 = \$108,000$. Combined effective rate: $\$108,000 \div \$300,000 = 36\%$. This illustrates the double taxation inherent in CCorporation structures.

49. A — Section 179 cannot exceed the contractor's taxable business income for the year. With \$80,000 in net income, the deduction is limited to \$80,000. The remaining \$15,000 can be carried forward or depreciated under MACRS. This income limitation prevents Section 179 from creating a net operating loss.

50. A — Adjusted SE income: $\$420,000 \times 0.9235 = \$387,870$. Social Security (12.4%) on $\$168,600 = \$20,906$. Medicare (2.9%) on $\$387,870 = \$11,248$. Additional Medicare surtax (0.9%) on $\$187,870$ (adjusted income exceeding \$200,000) = $\$1,691$. Total $\approx \$33,845$. The wage base caps Social Security while Medicare applies to all SE income with no ceiling.