PRACTICE EXAM 15: MISSISSIPPI LAW AND BUSINESS MANAGEMENT SIMULATION (50 QUESTIONS)

Time Allowed: 2 Hours | 50 Questions | **Passing Score:** 70% (35 Correct)

This is an openbook examination. You may use the NASCLA Contractors Guide to Business, Law and Project Management, Mississippi 6th Edition and a silent, nonprinting, nonprogrammable calculator.

1. A contractor is awarded a $3,800,000 public school construction project. The project requires performance and payment bonds at 100% of the contract value. During the preconstruction meeting, the owner's representative asks the contractor to explain the difference between the two bond types. Which response correctly distinguishes them?

A. The performance bond guarantees payment to subcontractors and the payment bond guarantees the project will be completed according to the contract documents

B. The performance bond guarantees the contractor will complete the project according to the contract documents for the owner's benefit, while the payment bond guarantees payment to subcontractors, suppliers, and laborers — each bond serves a different beneficiary and addresses a different risk

C. Both bonds serve the same purpose and are interchangeable — they both protect the owner from contractor default and subcontractor nonpayment

D. The performance bond covers defective work during the warranty period and the payment bond covers progress payments from the owner to the contractor

2. A contractor's project has the following yearend WIP data: contract price $2,200,000, estimated total cost $1,870,000, actual costs $1,309,000, billings $1,600,000. The contractor's CPA uses the percentageofcompletion method. What are the completion percentage, earned revenue, and billing status?

A. Completion is 59.5%, earned revenue is $1,309,000, and the project is overbilled by $291,000

B. Completion is 72.7%, earned revenue is $1,600,000, and the project is properly billed because earned revenue matches billings

C. Completion is 70%, earned revenue is $2,200,000, and the project is underbilled by $600,000

D. Completion is 70% ($1,309,000 ÷ $1,870,000), earned revenue is $1,540,000 (70% × $2,200,000), and the project is overbilled by $60,000 because billings of $1,600,000 exceed earned revenue of $1,540,000 — the $60,000 overbilling is classified as a current liability

3. A contractor operating as a sole proprietor is evaluating whether to convert to an LLC with Scorporation tax election. The contractor's net business income is $300,000. The accountant proposes setting the reasonable salary at $130,000. If the contractor makes this change, approximately how much will the annual selfemployment tax savings be on the $170,000 in distributions?

A. Approximately $45,900, representing the full selfemployment tax on the entire $300,000 because the Scorporation election eliminates all employment taxes

B. Approximately $12,750, representing only the employee's half of the FICA savings on the distribution amount

C. Approximately $24,000, representing the selfemployment tax avoided on the $170,000 distribution — calculated as $170,000 × 92.35% × 15.3% ≈ $24,000, because the distributions are not subject to selfemployment or payroll taxes under the Scorporation structure

D. Zero, because the IRS does not permit selfemployment tax savings when the distribution exceeds 50% of total income

4. A contractor's project involves a 15footdeep excavation for a commercial building basement. The competent person classifies the soil as Type C after performing both visual and manual tests. The contractor plans to use sloping as the protective system. What is the required horizontal setback on each side of the trench for Type C soil at this depth?

A. 22.5 feet on each side — Type C soil requires a 1½:1 slope (34 degrees), meaning for every 1 foot of depth the slope extends 1.5 feet horizontally, so 15 feet × 1.5 = 22.5 feet per side, making the total trench opening 45 feet wider than the bottom width

B. 15 feet on each side because Type C soil requires a 1:1 slope, making the horizontal setback equal to the excavation depth

C. 11.25 feet on each side because Type C soil requires a ¾:1 slope, which is the steepest permitted for the least stable classification

D. 7.5 feet on each side because the slope calculation uses the halfdepth method for excavations deeper than 10 feet

5. A contractor's employee works on a DavisBacon covered project. The wage determination specifies a basic rate of $36.00 plus $17.25 fringe for ironworkers. The contractor pays the ironworker $36.00 per hour in cash wages and contributes $12.00 per hour to an approved health insurance plan. What additional fringe obligation must the contractor meet?

A. No additional obligation because the health insurance contribution satisfies the fringe requirement regardless of the dollar amount

B. The contractor must pay the remaining $5.25 per hour ($17.25 required − $12.00 provided) either as additional cash wages to the ironworker or as additional contributions to other approved benefit plans — the total fringe package must equal or exceed the $17.25 specified in the wage determination

C. The contractor must increase the basic rate from $36.00 to $41.25 to absorb the fringe shortfall into the hourly wage

D. The contractor must file a fringe benefit waiver with the Department of Labor to reduce the required fringe from $17.25 to $12.00

6. A contractor discovers that a critical path activity — installing the building's main electrical switchgear — has been delayed 8 days because the equipment manufacturer shipped the wrong unit. The manufacturer acknowledges the error and ships the correct unit, but the 8day delay directly pushes the project completion date. What documentation should the contractor prepare to support a time extension request?

A. A detailed delay analysis showing the original schedule baseline, the critical path through the switchgear installation activity, the 8day delay period with manufacturer correspondence documenting the shipping error, the impact on all subsequent dependent activities, and the resulting new project completion date — this analysis demonstrates that the delay was beyond the contractor's control and directly affected the critical path

B. A verbal explanation to the owner at the next progress meeting, because delay claims do not require written documentation

C. Only the manufacturer's shipping confirmation for the replacement unit, because the shipping document alone proves the delay occurred

D. A letter from the manufacturer accepting blame for the error, which is sufficient without any schedule analysis because the manufacturer's admission eliminates the need for the contractor to demonstrate schedule impact

7. A contractor's project involves renovation of a 1965 commercial building. The project scope includes removing vinyl floor tiles from 8,000 square feet of office space. Before removal begins, the contractor tests the tiles and confirms they contain 4% chrysotile asbestos. Under OSHA and EPA regulations, what work practices must the contractor follow?

A. Standard demolition methods with N95 dust masks because 4% asbestos content is below the 10% threshold that triggers regulated work practices

B. Only wet methods during removal, with standard waste disposal in the regular construction dumpster

C. Only worker training and hazard communication because nonfriable floor tiles do not require full asbestos work practices

D. OSHA's asbestos in construction standard applies because the material contains more than 1% asbestos — the contractor must use regulated work practices including wetting, HEPA filtration, worker training, exposure monitoring, appropriate respiratory protection, regulated work areas with warning signs, and disposal through a licensed asbestos waste transporter and facility

8. A contractor's project has a fixedprice contract for $1,650,000. The original estimate included $1,402,500 in costs and $247,500 in profit (15% margin). At 65% completion, actual costs are $975,000 versus a prorated budget of $911,625 (65% × $1,402,500). The revised cost to complete is $520,000. What is the projected profit, and how does it compare to the original estimate?

A. Projected profit is $247,500 because the project is still within the original budget at 65% completion

B. Projected profit is $675,000 because the remaining budget exceeds the remaining cost estimate by a significant margin

C. Projected profit is $155,000 — the revised total cost of $1,495,000 ($975,000 + $520,000) exceeds the original estimate of $1,402,500 by $92,500, reducing projected profit from

$247,500 to $155,000 (a 37% profit erosion), with the 65% checkpoint showing $63,375 in overrun against the prorated budget

D. The projected profit cannot be determined because the project has not reached the 75% completion threshold required for reliable financial projections

9. A contractor operating as a Ccorporation has accumulated $600,000 in retained earnings over five years. The corporation has not distributed any dividends during this period. The contractor's accountant warns about the accumulated earnings tax. What is the purpose of this tax provision?

A. The accumulated earnings tax discourages Ccorporations from retaining excess profits beyond the reasonable needs of the business to avoid shareholderlevel dividend taxation — if the IRS determines the corporation is accumulating earnings to help shareholders avoid personal income tax on dividends rather than for legitimate business purposes, a penalty tax may be assessed on the excess accumulation

B. The accumulated earnings tax is a flat 5% annual charge on all retained earnings regardless of the business purpose for retention

C. The accumulated earnings tax applies only to corporations with more than 100 shareholders and is irrelevant to closely held construction companies

D. The accumulated earnings tax rewards corporations that retain earnings by providing a tax credit equal to 10% of the accumulated amount

10. A contractor's employee is working on a scaffold platform 18 feet above grade. The scaffold has guardrails on all open sides with the top rail at 42 inches. The employee needs to reach work that is 3 feet above the top rail. Instead of raising the scaffold, the worker stands on an overturned 5gallon bucket placed on the scaffold platform to gain the additional height. What OSHA violation is present?

A. Only a scaffold height violation because the scaffold should have been raised to the correct working height before work began

B. Standing on an improvised platform (bucket) on a scaffold defeats the guardrail protection by elevating the worker above the guardrail's protective height — the worker's center of gravity is now above the top rail, creating a fall hazard that the guardrail cannot prevent, violating OSHA's requirement to use fall protection systems as intended and to maintain a safe working platform

C. Only an equipment violation because 5gallon buckets are not rated for use as step stools under OSHA's general equipment standards

D. No violation because the guardrails are still in place and provide protection regardless of the worker's height above the platform surface

11. A contractor's project is governed by a contract that includes a liquidated damages clause of $2,500 per calendar day. The project is completed 14 days late. However, 6 of those days were caused by the owner's failure to provide timely access to a utility corridor, which the contractor documented with daily reports and written notices at the time of the delay. What is the contractor's liquidated damages liability?

A. $35,000 for the full 14 days because liquidated damages apply to all delays once the clause is triggered regardless of cause

B. $20,000 for 8 days — the 14 total late days minus the 6 documented ownercaused days equals 8 days of contractorcaused delay at $2,500/day

C. $0 because any ownercaused delay automatically voids the entire liquidated damages provision

D. $20,000 for 8 days (14 − 6 = 8 contractorcaused days × $2,500), and the contractor is entitled to a 6day time extension for the documented ownercaused delay — the contemporaneous documentation (daily reports and written notices) is critical because it establishes the factual basis for attributing 6 of the 14 delay days to the owner

12. A contractor's project involves installing a temporary power distribution system for a construction site. OSHA requires groundfault circuit interrupter (GFCI) protection for all temporary wiring used during construction. An electrician on the project bypasses the GFCI on a temporary outlet because it "keeps tripping" when a concrete vibrator is plugged in. What risk has this created?

A. Only a risk of electrical fire because the GFCI prevents overcurrent conditions that cause wire overheating

B. Only a risk of equipment damage because the GFCI protects tools from voltage spikes

C. A potentially fatal electrocution risk — the GFCI was tripping because it detected a ground fault (current leaking through an unintended path, possibly through the vibrator's damaged cord or the wet concrete environment), and bypassing the GFCI eliminates the protection that would interrupt the circuit before a worker receives a lethal shock

D. No risk because GFCIs on construction sites are recommended but not required by OSHA

13. A contractor's annual financial statements show: revenue $5,600,000, cost of construction $4,480,000, G&A expenses $728,000. The contractor's surety requires both a minimum 18% gross profit margin and a minimum 5% net profit margin. Does the contractor meet both requirements?

A. Yes — gross profit is $1,120,000 (20% margin) and net profit is $392,000 (7% margin), both exceeding the surety's minimums of 18% gross and 5% net

B. No — gross margin is 15% (below 18% minimum) and net margin is 5% (at the minimum threshold)

C. Yes for gross margin only — the 20% gross margin exceeds 18%, but the net margin cannot be calculated without knowing total assets

D. No — both margins are below the minimums because the cost of construction percentage exceeds 85% of revenue

14. A contractor is reviewing the insurance requirements in a subcontract. The subcontract requires the subcontractor to carry professional liability (errors and omissions) insurance in addition to CGL coverage. Under what circumstance is professional liability insurance appropriate for a subcontractor?

A. Professional liability insurance is required for all subcontractors on commercial projects exceeding $500,000 regardless of the scope of work

B. Professional liability insurance is appropriate only for subcontractors who provide architectural or engineering services under a separate professional license

C. Professional liability insurance is always unnecessary for subcontractors because the general contractor's CGL policy covers all professional service claims from subcontractor operations

D. Professional liability insurance is appropriate when the subcontractor provides design services as part of their scope — such as a designbuild mechanical subcontractor who designs the HVAC system as well as installing it — because the CGL policy does not cover claims arising from professional design errors

15. A contractor operating as a partnership with three partners files Form 1065 with the IRS. The partnership earns $750,000 in net ordinary business income. Partner A has a 40% share, Partner B has a 35% share, and Partner C has a 25% share. None receive guaranteed payments. What is Partner B's selfemployment tax base?

A. $750,000, because each general partner is jointly liable for selfemployment tax on the full partnership income

B. $242,438 — Partner B's 35% share of $750,000 is $262,500, and the selfemployment tax base is 92.35% of this amount ($262,500 × 0.9235 = $242,438), on which the 15.3% SE tax rate is applied

C. $131,250, representing exactly half of Partner B's distributive share because partnership SE tax is calculated at 50% of each partner's income

D. $0, because partnership distributive shares are classified as passive income exempt from selfemployment tax for all partners

16. A contractor's project involves constructing a commercial parking structure. During concrete placement on the third elevated deck, the formwork support system fails and a 40foot by 60foot section of the freshly poured deck collapses onto the second level. Two workers are hospitalized with serious injuries. Under OSHA reporting requirements, what are the contractor's reporting obligations?

A. The two hospitalizations must each be reported to OSHA within 24 hours because inpatient hospitalization is one of three severe injury categories (along with amputations and eye losses) that trigger the 24hour reporting requirement — additionally, the structural collapse should be thoroughly investigated to determine the cause and prevent recurrence

B. The incident must be reported within 7 calendar days through the standard OSHA incident report form

C. The incident must be reported within 8 hours because any workplace incident involving structural collapse is classified in the same category as fatalities

D. No OSHA reporting is required because the workers survived — OSHA reporting requirements apply only to fatalities

17. A contractor is preparing a bid for a project and discovers a significant ambiguity in the specifications — the mechanical specification references two different HVAC equipment models with different capacities and prices. The contractor submits a bid based on the less expensive model. After the award, the architect clarifies that the more expensive model was intended. The contractor submits a change order for the $42,000 price difference. Is the change order justified?

A. No, because the contractor should have submitted an RFI during the bidding period to clarify the ambiguity before submitting the bid

B. No, because contractors are always required to bid the more expensive option when specifications are ambiguous to protect the owner from cost overruns

C. Yes, because the specification ambiguity created a legitimate basis for the contractor's interpretation — when contract documents contain ambiguities, the general rule is that ambiguities are construed against the drafter (the owner/architect), and the contractor is entitled to additional compensation if their reasonable interpretation results in a lower cost than the architect's intended specification

D. Yes, but only if the price difference exceeds 5% of the total contract value, because specification ambiguities below this threshold are absorbed by the contractor

18. A contractor's project involves a 20footdeep utility trench in an area with heavy clay soil. The competent person classifies the soil as Type A — the most stable classification. Two days later, a severe thunderstorm drops 3 inches of rain in 4 hours. The next morning, the competent person observes standing water in the trench, saturation of the trench walls, and tension cracks forming at the surface near the trench edge. What must the competent person do before allowing workers to reenter?

A. Pump out the standing water and allow workers to enter once the water level drops below 6 inches because the original Type A classification remains valid

B. Install dewatering pumps, which restores the soil to its original Type A classification without any need for reclassification

C. Allow workers to enter but restrict them to the center of the trench away from the saturated walls

D. Reclassify the soil — the standing water, wall saturation, and tension cracks indicate the soil no longer meets Type A criteria; the soil must be reclassified to a lower stability rating (likely Type C given the saturation and cracking), the existing protective system must be upgraded to match the new classification, and workers cannot reenter until the revised protection is in place

19. A contractor's financial statements show: cash $42,000, accounts receivable $510,000, retainage receivable $95,000, prepaid expenses $18,000, inventory $13,000, equipment (net) $460,000, accounts payable $340,000, accrued expenses $48,000, overbillings $55,000, current portion of longterm debt $62,000, and longterm debt $280,000. What is the contractor's net worth and working capital?

A. Net worth is $1,138,000 and working capital is $678,000, calculated by treating all assets as current assets

B. Net worth is $353,000 (total assets $1,138,000 minus total liabilities $785,000) and working capital is $173,000 (current assets $678,000 minus current liabilities $505,000) — net worth represents the owner's equity and working capital measures shortterm liquidity

C. Net worth is $678,000 and working capital is $353,000, with the figures reversed from their correct positions

D. Net worth is $460,000 (equal to equipment value) and working capital is $42,000 (equal to cash balance)

20. A contractor signs a construction contract that includes a clause requiring the contractor to indemnify the owner for claims "to the extent caused by the contractor's negligent acts or omissions." During construction, a visitor trips on a piece of lumber left on a walkway by the contractor's crew and breaks their wrist. The visitor sues both the owner and the contractor. Under the indemnification clause, what is the contractor's obligation?

A. The contractor must indemnify the owner because the injury was caused by the contractor's crew leaving lumber on the walkway — a negligent act attributable to the contractor — and the indemnification clause requires the contractor to protect the owner from claims caused by the contractor's negligence

B. The contractor has no indemnification obligation because trips and falls are classified as premises liability claims that fall exclusively under the owner's responsibility

C. The contractor's obligation is limited to 50% of the visitor's damages because indemnification clauses automatically split liability between the indemnitor and indemnitee

D. The contractor has no obligation because the visitor assumed the risk by entering an active construction site

21. A contractor's project involves a multistory commercial building with steel frame construction. The steel erection subcontractor is working at heights of 45 feet. Under OSHA's steel erection standard, what fall protection is required for connectors performing initial connection activities at this height?

A. No fall protection is required for connectors at any height because the steel erection standard exempts all connectors from fall protection requirements

B. Only a warning line system is required because connectors between 30 and 50 feet are in the intermediate fall protection zone

C. Conventional fall protection (guardrails, safety nets, or personal fall arrest systems) is required at all times because connectors above 30 feet must have conventional fall protection — the limited exemption for connectors during initial connection activities applies only between 15 and 30 feet

D. Only a safety monitor system is required because connectors above 30 feet are permitted to work under visual observation rather than with physical fall protection

22. A contractor's project involves installing a new fire alarm system in a commercial building. The specifications require the system to be tested and certified by the fire marshal before the building can be occupied. The contractor completes the installation and schedules the fire marshal inspection. The fire marshal identifies three deficiencies that must be corrected before certification. The contractor corrects the deficiencies and the system passes reinspection. During this process, the project completion is delayed by 10 days. Who bears the cost and schedule impact of the correction period?

A. The fire marshal bears the cost because the marshal's initial rejection was the proximate cause of the 10day delay

B. The contractor bears both the cost and schedule impact because the deficiencies were in the contractor's installation work — the fire marshal's inspection identified workmanship issues that the contractor should have caught through their own quality control before requesting the official inspection

C. The project owner bears both the cost and schedule impact because all regulatory inspection delays are classified as ownercaused delays under standard construction contracts

D. The fire alarm equipment manufacturer bears the cost because the deficiencies were caused by the manufacturer's installation instructions rather than the contractor's workmanship

23. A contractor's project has a contract price of $1,100,000 and estimated total costs of $935,000. The contractor wants to verify the profit margin and equivalent markup. What are the correct calculations?

A. The profit margin is 15% ($165,000 ÷ $1,100,000) and the equivalent markup on cost is 17.65% ($165,000 ÷ $935,000) — confirming that markup percentage is always higher than the equivalent margin percentage because they use different denominators

B. The profit margin and markup are both 15% because the two calculations always produce identical results for construction projects

C. The profit margin is 17.65% and the markup is 15%, which inverts the actual relationship between the two metrics

D. The profit margin is 15% and the markup is 30%, calculated by doubling the margin percentage to convert from sellingpricebased to costbased measurement

24. A contractor's project has the following scenario: the owner's architect issues a revised drawing that significantly changes the structural grid layout of a commercial building at the 40% completion point. The change requires demolishing and rebuilding $180,000 worth of alreadycompleted foundation and structural work. The contractor submits a change order for the demolition, rebuilding, and associated schedule delay. The owner argues the contractor should have anticipated potential design revisions and built contingency into the original bid. Is the owner's argument valid?

A. Yes, because contractors are expected to include contingency for design revisions in all fixedprice bids as a standard industry practice

B. Yes, because design revisions at 40% completion are foreseeable events that the contractor should have priced during the bidding phase

C. No, but only because the revision occurred before the 50% completion milestone — design changes after 50% are the contractor's responsibility while changes before 50% are the owner's

D. No, because a fundamental design revision that requires demolishing completed work is an ownerdirected change — the architect acts as the owner's agent, and changes to the approved design that require rework of correctly performed construction are the owner's financial and schedule responsibility through the change order process

25. A contractor operating as an Scorporation has two shareholderemployees. Shareholder A earns a salary of $105,000 and receives distributions of $95,000. Shareholder B earns a salary of $85,000 and receives distributions of $65,000. The IRS audits the company and confirms both salaries are reasonable for the work performed. What is the total amount of income subject to selfemployment or payroll taxes, and what amount avoids these taxes?

A. Total subject to payroll taxes: $190,000 (combined salaries); total avoiding SE/payroll taxes: $160,000 (combined distributions) — the distributions pass through as ordinary income on each shareholder's personal return but are not subject to FICA or selfemployment taxes because the salaries have been confirmed as reasonable

B. The full $350,000 (salaries plus distributions) is subject to payroll taxes because the IRS reclassifies all distributions as wages when the total exceeds $300,000

C. Only the distributions ($160,000 total) are subject to selfemployment tax because Scorporation distributions are classified as selfemployment income under the Internal Revenue Code

D. Zero is subject to any employment taxes because Scorporations are fully exempt from all payroll and selfemployment tax obligations

26. A contractor's project involves a tenant improvement in an occupied commercial building. Construction is performed during business hours while office tenants work on adjacent floors. A construction worker accidentally triggers the building's fire alarm while performing welding work near a smoke detector. The building evacuation takes 45 minutes and disrupts the business operations of 200 tenants. The building owner demands the contractor pay for the lost productivity. What is the contractor's likely liability?

A. No liability because fire alarm activations during construction in occupied buildings are classified as unavoidable incidents beyond the contractor's control

B. The contractor is likely liable because the accidental fire alarm activation was a foreseeable consequence of welding near smoke detectors — the contractor should have disabled the affected smoke detector (with building management approval and fire watch in place) or protected the detector with a smoke guard before welding, and the failure to take this preventive measure constitutes negligence

C. The building owner is solely liable because the building's fire alarm system should have been programmed to differentiate between constructionrelated smoke and actual fire events

D. Liability falls on the fire alarm monitoring company because they should have contacted the contractor before dispatching the fire department

27. A contractor's project has a contract that includes a "paywhenpaid" clause for subcontractor payments. The owner pays the contractor on April 1. The clause requires payment to subcontractors within 14 days. The contractor pays one subcontractor on April 10 (within the 14day window) but pays another subcontractor on April 28 (14 days late). What is the contractor's position regarding each subcontractor?

A. The contractor is in breach on both payments because paywhenpaid clauses require payment within 7 days regardless of the contractual language

B. Both payments are timely because Mississippi law provides a mandatory 30day payment period that overrides any shorter contractual deadline

C. The contractor is compliant on the first payment (April 10, within 14 days) but in breach on the second payment (April 28, 14 days beyond the April 14 deadline) — each subcontract payment is evaluated independently against the contractual deadline

D. Both payments are timely because the 14day deadline is measured from the date the contractor deposits the owner's payment, not from the date the payment is received

28. A contractor's project is 90% complete when the owner requests a design change to the main lobby — upgrading the flooring from polished concrete to imported marble. The change adds $78,000 in cost and 2 weeks to the schedule. The contract's liquidated damages clause assesses $1,500 per calendar day. If the change order is approved, does the liquidated damages clock continue during the 2week extension?

A. No, because an approved change order that extends the contract time also extends the completion date — the 2week extension becomes part of the new contractual deadline, and liquidated damages apply only to delays beyond the revised completion date

B. Yes, because liquidated damages apply continuously from the original completion date regardless of any change orders

C. No, but only if the change order value exceeds 5% of the original contract price, because the liquidated damages waiver applies only to changes above this threshold

D. Yes, because the contractor should have anticipated potential latestage design changes and built schedule contingency into the original baseline

29. A contractor's employee discovers a crack in a recently poured concrete beam. The crack runs diagonally across the beam at approximately 45 degrees from the horizontal. The beam supports a floor system above. What type of crack is this, and what does it potentially indicate?

A. A shrinkage crack that is cosmetic only and requires no structural evaluation because all concrete develops shrinkage cracks during curing

B. A settlement crack caused by soil movement beneath the foundation, requiring soil stabilization but no structural evaluation of the beam itself

C. A temperature crack caused by thermal expansion and contraction that is within normal tolerances for structural concrete beams

D. A diagonal crack at 45 degrees in a structural beam is potentially a shear crack — a serious structural concern that may indicate the beam is experiencing shear stresses exceeding its capacity, requiring immediate notification of the structural engineer for evaluation; unlike vertical flexural cracks or random shrinkage cracks, diagonal shear cracks can indicate an imminent structural failure risk

30. A contractor's project involves installing a commercial elevator. The installation is complete and the elevator passes the state inspection. The elevator subcontractor provides a oneyear warranty covering parts and labor. The prime contract between the general contractor and the owner specifies a twoyear warranty on all building systems including the elevator. What warranty gap exists, and how should the contractor address it?

A. No gap exists because the state elevator inspection supersedes all contractual warranty provisions

B. The contractor has a 12month warranty gap — the subcontractor's warranty covers only the first year, but the prime contract obligates the contractor for two years; if the elevator fails between Month 13 and Month 24, the contractor is liable for repairs under the prime contract warranty but cannot recover costs from the subcontractor; the contractor should have negotiated a 24month subcontract warranty to match the prime contract

C. The elevator manufacturer's standard warranty automatically extends to match the prime contract's twoyear requirement without any action by the contractor

D. The gap is the owner's responsibility because elevator warranties are governed by the state elevator safety code rather than the construction contract

31. A contractor's project requires the contractor to submit a detailed project schedule to the owner within 30 days of the notice to proceed. The schedule must use the Critical Path Method and identify all critical and nearcritical activities. The contractor submits a bar chart (Gantt chart) without CPM logic, predecessor/successor relationships, or critical path identification. The owner rejects the schedule submission. Is the rejection justified?

A. Yes, because the contract specifically requires a CPM schedule with logical relationships and critical path identification — a bar chart without these elements does not satisfy the contractual requirement; CPM schedules show activity relationships, identify the critical path, calculate float, and enable impact analysis for delays and changes, none of which a simple bar chart provides

B. No, because bar charts and CPM schedules are different visual representations of the same information and are interchangeable

C. No, because the owner must accept any schedule format the contractor chooses to submit as long as it shows activity durations

D. Yes, but only because the contractor submitted the schedule after the 30day deadline — if submitted on time, any schedule format would have been acceptable

32. A contractor's project involves a $2,100,000 commercial office building. The contract requires the contractor to carry builder's risk insurance for the full value of the completed project. A fire during construction destroys $450,000 worth of completed work. The builder's risk policy covers the loss. After the insurance claim is processed, who typically receives the insurance proceeds, and what must happen with those funds?

A. The contractor receives the proceeds and can use them for any business purpose because the insurance was purchased with the contractor's premium payments

B. The insurance company deposits the proceeds into an escrow account managed by the project architect until the project is complete

C. The proceeds are used to repair and rebuild the firedamaged work to its prefire condition — the builder's risk policy exists to protect the project investment, and the funds must be applied to restoring the damaged portion of the building rather than distributed as profit; the specific disbursement procedures are typically governed by the contract terms and the insurance policy provisions

D. The owner receives the proceeds and can terminate the project, keeping the insurance money as compensation for the fire damage

33. A contractor's project involves installing underground storm drainage. The specification requires concrete pipe to be bedded on 6 inches of compacted crushed stone and backfilled with select granular material to 12 inches above the pipe crown. The contractor's crew beds the pipe on native soil (without crushed stone) and backfills with excavated material rather than select fill. The inspector does not catch the deviation. Two years after project completion, the storm drain system fails due to pipe settlement and joint separation. Who is liable?

A. The building inspector is solely liable because they failed to catch the deviation during construction

B. The contractor bears primary liability because the contractor failed to follow the specification — bedding the pipe on native soil without the required crushed stone and using excavated material instead of select fill directly caused the settlement and joint failure; the

inspector's failure to catch the deviation does not shift the contractor's obligation to build according to the specifications

C. The pipe manufacturer is liable because the pipe should have been designed to perform on any type of bedding material regardless of the specification requirements

D. The owner is liable because the owner should have hired a fulltime onsite inspector to monitor every phase of the underground work

34. A contractor operating as an LLC with two members has not made any tax election with the IRS. The LLC earns $480,000 in net business income. Both members participate equally in management. What is each member's selfemployment tax obligation?

A. Each member pays selfemployment tax on $120,000 (25% of total income) because LLCs pay SE tax at a reduced rate compared to partnerships

B. Neither member pays selfemployment tax because LLCs are classified as passive investment entities exempt from selfemployment tax

C. Each member pays selfemployment tax on $480,000 (the full partnership income) because both members are jointly liable for SE tax on the total

D. Each member pays selfemployment tax on their 50% distributive share — $240,000 × 92.35% = $221,640 — because a multimember LLC without a tax election is taxed as a partnership, and each general/managing member pays SE tax on their proportional share of the ordinary business income

35. A contractor's project involves a commercial building renovation where the existing mechanical room contains equipment insulated with vermiculite that has been confirmed to contain 2% tremolite asbestos. The project scope requires removing this equipment. What work practice requirements apply?

A. Full OSHA asbestos in construction standard compliance is required — tremolite asbestos at 2% (above the 1% threshold) triggers regulated work practices including worker training, exposure monitoring, respiratory protection, regulated work areas, wet methods, HEPA filtration, and disposal through licensed facilities; tremolite is an amphibole asbestos considered more hazardous than chrysotile

B. No special requirements because vermiculite insulation is exempt from the asbestos standard regardless of the type or percentage of asbestos present

C. Only standard dust control measures because tremolite at 2% is below the 5% threshold for regulated asbestos work

D. Only worker notification is required because tremolite asbestos in vermiculite is classified as naturally occurring and exempt from OSHA's asbestos work practice requirements

36. A contractor is reviewing the MSBOC requirements for adding a new specialty classification to their existing commercial license. The contractor currently holds a Building Construction major classification and wants to add the Electrical specialty. What must the contractor do?

A. Submit a written request to MSBOC without any examination because the Building Construction license already includes electrical work within its scope

B. No action is required because the Building Construction major classification automatically includes all specialty classifications

C. Pass the required Electrical trade examination administered by PSI, pay the $100 additional specialty fee, and demonstrate that the qualifying party has the appropriate qualifications for the Electrical classification — each specialty requires its own examination and fee regardless of what other classifications the contractor holds

D. Hire a licensed master electrician as an employee, which automatically extends the Building Construction license to include electrical work without any additional examination

37. A contractor's project has the following cost analysis: the bid included direct costs of $740,000, overhead allocation of $111,000 (15% rate), project indirect costs of $38,000, and profit of $111,000 (target 10% margin). During construction, actual direct costs are $770,000, actual overhead allocation is $115,500 (15% × $770,000), and actual project indirect costs are $45,000. What is the actual profit and actual margin?

A. Actual profit is $111,000 (unchanged) because the contract price is fixed and profit equals the planned amount regardless of actual costs

B. Actual profit is $69,500 — total actual cost of $930,500 ($770,000 + $115,500 + $45,000) subtracted from the contract price of $1,000,000 (which was $740,000 + $111,000 + $38,000 + $111,000) equals $69,500 actual profit, producing an actual margin of 6.95% versus the target 10%

C. Actual profit is $0 because the cost overrun consumes the entire profit margin on fixedprice contracts

D. Actual profit is $111,000 because the overhead overrun is absorbed by the company's general fund and does not affect individual project profitability

38. A contractor's employee sustains a serious head injury when a steel beam slips from a crane's rigging and falls onto the work area. The employee was wearing a hard hat, but the impact force exceeded the hat's protection capacity. The injury requires emergency surgery and 3 months of hospitalization. Under OSHA reporting requirements, when must this injury be reported?

A. Within 7 calendar days through the standard OSHA incident recording process on the OSHA 300 Log

B. Within 30 days because inpatient hospitalizations that occur more than 24 hours after the incident do not trigger the expedited reporting timeline

C. No reporting is required because the employee was wearing a hard hat, which demonstrates the employer's compliance with PPE requirements

D. Within 24 hours because inpatient hospitalization is one of three severe injury categories (along with amputations and eye losses) that trigger OSHA's 24hour reporting requirement — the fact that the employee was wearing a hard hat does not affect the reporting obligation

39. A contractor's project involves constructing a water treatment facility. The concrete specification requires Type V cement for all concrete in contact with sulfatecontaining soil. The contractor's concrete supplier delivers concrete made with Type I cement (standard Portland cement) because Type V was not available. The contractor places the Type I concrete in the foundation walls that contact the sulfate soil. What problem will this create?

A. No problem because Type I and Type V cements have identical performance characteristics and the designation is a labeling convention only

B. No problem because the sulfate resistance of concrete is determined by the aggregate type, not the cement type

C. A serious durability problem — Type V cement is specifically formulated to resist sulfate attack, while Type I cement is vulnerable to chemical deterioration when exposed to sulfatecontaining soils; using Type I in sulfate conditions will cause the concrete to deteriorate prematurely through expansion, cracking, and loss of structural integrity, potentially requiring removal and replacement of the affected foundation walls

D. A minor aesthetic problem only because sulfate exposure causes surface discoloration but does not affect the concrete's structural capacity or longterm durability

40. A contractor's project manager discovers that the company's overhead rate was calculated using last year's direct cost volume of $2,400,000, but this year's actual volume has dropped to $1,800,000 due to a slowdown in new project awards. Annual overhead costs remain at $360,000. What impact does the reduced volume have on the overhead rate and project profitability?

A. The actual overhead rate has increased from 15% ($360,000 ÷ $2,400,000) to 20% ($360,000 ÷ $1,800,000) — if the contractor continues bidding with the 15% rate, each project underrecovers overhead by 5%, creating a cumulative unrecovered overhead of $90,000 ($1,800,000 × 5%) that comes directly out of the company's profit

B. The reduced volume has no impact because overhead rates are fixed for the entire fiscal year and cannot be affected by volume changes

C. The reduced volume improves profitability because fewer projects mean less overhead per project and higher margins

D. The overhead rate decreases from 15% to 10% because lower volume requires a lower overhead allocation per project

41. A contractor's project involves a commercial building where the roofing subcontractor installs a singleply membrane roofing system. The membrane manufacturer requires certified installers and specific installation procedures to maintain the warranty. The roofing subcontractor's crew is not manufacturercertified. If the roof leaks within the warranty period, what complication does this create?

A. No complication because the general contractor's warranty supersedes all manufacturer warranty requirements

B. The manufacturer may deny the warranty claim because the installation was performed by noncertified installers — the contractor would then be solely responsible for all roof repair costs under the prime contract warranty, with no ability to recover costs from the manufacturer's warranty; this highlights the importance of verifying subcontractor certifications before allowing installation

C. The manufacturer is still obligated to honor the warranty because certification requirements are voluntary guidelines rather than binding warranty conditions

D. The building owner is responsible for verifying installer certification status and bears the risk of warranty denial if the installers were not certified

42. A contractor's project has been experiencing persistent schedule delays. The owner sends a formal "cure notice" stating that the contractor must demonstrate measurable schedule recovery within 30 days or the owner will consider terminating the contract for cause. What should the contractor do?

A. Ignore the cure notice because owners cannot terminate fixedprice contracts for schedule delays under any circumstances

B. File a preemptive breach of contract claim against the owner arguing that the cure notice itself constitutes a breach of the implied covenant of good faith

C. Respond by abandoning the project and filing a lien for all completed work because cure notices are preliminary termination actions that cannot be reversed

D. Respond to the cure notice within the 30day window with a detailed recovery plan — identifying specific causes of delay, corrective measures being implemented (additional crews, extended hours, resequencing), a revised schedule demonstrating the path to recovery, and a commitment to achieving the recovery milestones; failure to respond adequately may give the owner grounds for termination for cause

43. A contractor's project is governed by a fixedprice contract with a mutual waiver of consequential damages. The contractor completes the project 6 weeks late, causing the owner to lose $180,000 in expected rental income from tenants who could not occupy the building on time. The contract also includes a liquidated damages clause of $2,000 per calendar day. What is the maximum the owner can recover?

A. $180,000 in actual lost rental income because the waiver of consequential damages does not apply to delayrelated losses

B. $84,000 in liquidated damages (42 days × $2,000/day) plus the $180,000 in lost rental income, because the owner can recover both

C. $84,000 in liquidated damages only (42 days × $2,000/day) — the mutual waiver of consequential damages bars recovery of the lost rental income ($180,000), and the liquidated damages clause provides the agreedupon remedy for delay, replacing actual delay damages with the preagreed daily amount

D. $0 because the mutual waiver of consequential damages eliminates all delay remedies including liquidated damages

44. A contractor's project involves a 12footdeep excavation. The competent person performs soil classification tests. The thumb penetration test shows the thumb can penetrate the soil with

moderate pressure. The soil shows some cohesion but has visible cracks and evidence of previous disturbance from an adjacent utility installation. Under OSHA's soil classification system, what is the most likely classification?

A. Type B — the moderate thumb penetration, some cohesion, visible cracks, and evidence of previous disturbance all point to Type B soil, which exhibits medium cohesive strength but has been disturbed or shows signs of reduced stability compared to Type A; disturbed soil cannot be classified as Type A regardless of its other characteristics

B. Type A, because the moderate thumb penetration demonstrates sufficient cohesion for the highest stability classification

C. Type C, because any visible cracks automatically classify soil as the least stable type regardless of other test results

D. Stable Rock, because the moderate thumb penetration indicates the soil is dense enough to be classified as rock equivalent

45. A contractor's project involves a commercial kitchen renovation. The specifications require the contractor to install a grease interceptor (grease trap) in the kitchen's drain line before it connects to the municipal sewer system. The contractor installs the kitchen plumbing without the grease interceptor because "the existing interceptor downstream is sufficient." The plumbing inspector fails the roughin inspection. What must the contractor do?

A. Appeal the inspector's decision because the existing downstream interceptor provides equivalent protection

B. Install the grease interceptor as specified — the specification requires a grease interceptor in the kitchen drain line, and the contractor cannot unilaterally decide that an existing downstream unit is sufficient; the plumbing inspector enforces the code and specification requirements, and the contractor must comply regardless of their assessment of the existing system's adequacy

C. Request a variance from the local plumbing authority to waive the grease interceptor requirement based on the existing downstream unit

D. Install a smaller, less expensive grease interceptor and request a reinspection as a compromise between the specification and the contractor's assessment

46. A contractor's project involves constructing a new commercial building on a site that was previously used as a gas station. The Phase II environmental assessment confirmed petroleum contamination in the soil at depths of 3 to 7 feet. The construction contract allocates environmental remediation responsibility to the owner, but the contractor is responsible for excavation. During excavation, the contractor encounters the contaminated soil at the documented depths. What precautions must the contractor take during excavation?

A. No precautions are needed because the contamination was previously documented and the owner bears the remediation responsibility

B. Only the use of standard dust masks is required because petroleum contamination in soil does not create airborne hazards during excavation

C. Only the installation of silt fence around the excavation perimeter is required because the sole concern is preventing contaminated soil from migrating off site through stormwater runoff

D. Worker protection measures including a sitespecific health and safety plan, personal protective equipment appropriate for petroleum exposure, air monitoring for volatile organic compounds, contaminated soil handling procedures (segregation, stockpiling on lined areas, covering to prevent vapor release), and compliance with all applicable environmental regulations — the owner's remediation responsibility does not eliminate the contractor's obligation to protect workers and the environment during excavation

47. A contractor's project involves a value engineering proposal that replaces an expensive specified material with a less costly alternative that meets the same performance criteria. The contractor submits the VE proposal through the contractual process. The architect reviews the proposal and approves it. The cost savings from the substitution is $65,000. Who benefits from this savings?

A. The owner retains the full $65,000 savings because any cost reduction benefits the project owner exclusively

B. The contractor retains the full $65,000 because the contractor identified the savings opportunity and performed the analysis

C. The disposition of the savings depends on the contract terms — some contracts allow the contractor to retain all VE savings as an incentive, others split savings between the owner and contractor (commonly 50/50), and others allocate all savings to the owner; the specific VE sharing provision in the contract governs how the $65,000 is distributed

D. The architect retains the savings because the architect's approval of the VE proposal entitles them to a design optimization fee

48. A contractor's project is a $4,200,000 commercial development. The contractor's bonding company conducts a midyear review and discovers that the contractor's WIP schedule shows chronic overbilling totaling $280,000 across three active projects and a declining current ratio from 1.35 to 1.08. What actions will the surety likely take?

A. No action because midyear reviews are advisory and the surety can only evaluate the contractor's financial position at annual renewal

B. The surety may immediately cancel all existing bonds because the declining financial metrics violate the bonding agreement's financial covenants

C. The surety may require additional collateral or personal indemnity to protect against increased default risk, increase monitoring through more frequent financial reporting, restrict the contractor's ability to take on new bonded work, and potentially reduce the contractor's overall bonding program capacity — chronic overbilling and declining liquidity are serious warning signs that the contractor may not be able to complete bonded projects within budget

D. The surety will increase the contractor's bonding capacity because the $280,000 in overbilling indicates aggressive revenue growth

49. A contractor's project involves exterior concrete work. The specification requires airentrained concrete with 57% air content for freezethaw durability. The contractor's concrete supplier delivers concrete with only 3% air content. The contractor places the lowair concrete in exterior flatwork that will be exposed to Mississippi's freezethaw cycles. What is the likely longterm consequence?

A. No consequence because Mississippi's mild climate does not produce enough freezethaw cycles to damage concrete regardless of air content

B. The low air content will likely result in premature scaling, spalling, and surface deterioration of the exterior concrete during freezethaw exposure — air entrainment creates microscopic air bubbles that provide pressure relief space when water in the concrete freezes and expands, and without adequate air content, the expansive forces damage the concrete matrix from within

C. The only consequence is a slightly rougher surface texture because air entrainment affects only the aesthetic finish of the concrete

D. The low air content improves the concrete's strength because air voids reduce compressive capacity, and less air means higher strength

50. A contractor is preparing for the Mississippi Law and Business Management exam. The exam consists of 50 multiplechoice questions with a 2hour time limit and a 70% passing score (35 correct answers). The exam is openbook, allowing the NASCLA Contractors Guide and a calculator. A wellprepared testtaker has 15 questions they can answer confidently from knowledge, 20 questions they can locate quickly in their tabbed reference guide, and 15 questions that require careful analysis. What time management strategy maximizes the chance of passing?

A. Spend the first 60 minutes reading the entire NASCLA guide from cover to cover, then attempt the questions in the remaining 60 minutes

B. Spend equal time (2.4 minutes) on every question regardless of difficulty, maintaining a rigid pace throughout the exam

C. Answer the 15 confident questions quickly to bank time, then work through the 20 referencelookup questions methodically, and allocate remaining time to the 15 analytical questions — skipping questions that require extensive search time and returning to them after completing all other questions

D. Answer the 15 confident questions first (approximately 15 minutes), efficiently locate answers for the 20 reference questions using the tabbed guide (approximately 50 minutes), then carefully analyze the 15 complex questions with remaining time (approximately 55 minutes) — this staged approach banks early correct answers, uses the reference guide efficiently, and reserves the most time for the hardest questions while maintaining a buffer for review

Practice Exam 15: Answer Key and Explanations

1. B — The performance bond guarantees the contractor will complete the project per the contract documents — it protects the owner. The payment bond guarantees payment to subcontractors, suppliers, and laborers — it protects downstream parties. Each bond serves a different beneficiary and addresses a different risk. This distinction is fundamental and frequently tested on the exam.

2. D — Completion: $1,309,000 ÷ $1,870,000 = 70%. Earned revenue: 70% × $2,200,000 = $1,540,000. Billings: $1,600,000. Since billings ($1,600,000) exceed earned revenue ($1,540,000) by $60,000, the project is overbilled. The $60,000 overbilling is classified as a current liability on the balance sheet — the contractor has been paid for work not yet performed.

3. C — The $170,000 in distributions avoids selfemployment tax under the Scorporation structure. The SE tax savings: $170,000 × 92.35% × 15.3% ≈ $24,000 annually. As a sole proprietor, the full $300,000 would be subject to SE tax. With the Scorp election, only the $130,000 salary is subject to payroll taxes — the $170,000 distribution passes through as ordinary income without the 15.3% SE tax burden.

4. A — Type C soil requires a 1½:1 slope — for every 1 foot of depth, the slope extends 1.5 feet horizontally. At 15 feet deep: 15 × 1.5 = 22.5 feet of horizontal run on each side. Total additional width: 22.5 + 22.5 = 45 feet beyond the bottom width. This enormous surface area requirement demonstrates why sloping in Type C soil is often impractical for deep excavations, making shoring or shielding more viable alternatives.

5. B — The required fringe is $17.25/hour; the contractor provides $12.00 through health insurance. The $5.25/hour shortfall must be paid either as additional cash wages to the worker or as contributions to other approved benefit plans. DavisBacon requires the total fringe package to meet or exceed the wage determination amount — partial compliance does not satisfy the requirement, and each hour of underpayment creates a backwage obligation.

6. A — A comprehensive delay analysis is essential for supporting a time extension request. The analysis must demonstrate: the original critical path ran through the switchgear activity, the 8day delay was beyond the contractor's control (manufacturer error), and the delay directly pushed the project completion date. Manufacturer correspondence, schedule comparisons, and impact calculations create the evidentiary foundation the owner needs to evaluate and approve the request.

7. D — OSHA's asbestos in construction standard (29 CFR 1926.1101) applies to all materials containing more than 1% asbestos. At 4% chrysotile, the standard fully applies. Required work practices include wetting to minimize fiber release, HEPA filtration, worker training, exposure monitoring, appropriate respiratory protection, regulated work areas with warning signs, and disposal through licensed asbestos waste handlers. Nonfriable floor tiles become friable when broken during removal.

8. C — Revised total cost: $975,000 + $520,000 = $1,495,000. Original estimate was $1,402,500. The project is $92,500 over budget, reducing projected profit from $247,500 to $155,000 — a 37% erosion. At the 65% checkpoint, actual costs exceed the prorated budget by $63,375 ($975,000 vs. $911,625). The cost overrun trend requires immediate investigation and corrective action before additional profit is consumed.

9. A — The accumulated earnings tax discourages Ccorporations from hoarding profits to help shareholders avoid personal income tax on dividends. If the IRS determines the $600,000 accumulation exceeds the reasonable needs of the business, a penalty tax may be assessed on the excess. The provision targets corporations that retain earnings not for legitimate business purposes (equipment, expansion, working capital) but to defer shareholderlevel taxation.

10. B — Standing on a bucket elevates the worker's center of gravity above the 42inch guardrail. The guardrail can no longer prevent a fall because the worker's body mass is above the top rail. This defeats the guardrail's protective purpose and creates a fall hazard at 18+ feet that the guardrail system was designed to prevent. The proper solution is raising the scaffold platform to the correct working height.

11. D — Total delay: 14 days. Documented ownercaused delay: 6 days. Contractorcaused delay: 14 − 6 = 8 days. Liquidated damages: 8 × $2,500 = $20,000. The contemporaneous documentation — daily reports recording the access delay and written notices sent at the time — is the critical evidence. Without these records, the contractor would have difficulty proving the 6 days were ownercaused and would face the full $35,000 assessment.

12. C — The GFCI was tripping because it detected a ground fault — current leaking through an unintended path, likely through the vibrator's damaged cord or the wet concrete environment. Bypassing the GFCI removes the protection that would interrupt the circuit before a worker receives a lethal shock. A GFCI that "keeps tripping" is doing its job — the underlying ground fault must be found and corrected, not the protective device bypassed.

13. A — Gross profit: $5,600,000 − $4,480,000 = $1,120,000. Gross margin: $1,120,000 ÷ $5,600,000 = 20% (exceeds 18% minimum). Net profit: $1,120,000 − $728,000 = $392,000. Net margin: $392,000 ÷ $5,600,000 = 7% (exceeds 5% minimum). The contractor meets both surety thresholds, indicating healthy profitability at both the project level and overall business level.

14. D — Professional liability (E&O) insurance is appropriate when a subcontractor provides design services — such as a designbuild mechanical subcontractor who designs the HVAC system. The CGL policy does not cover professional design errors. If the subcontractor's design is deficient and causes damages, the CGL will not respond. Professional liability fills this gap by covering claims arising from professional service errors.

15. B — Partner B's 35% share: $750,000 × 35% = $262,500. SE tax base: $262,500 × 92.35% = $242,438. The 92.35% factor mirrors the employer FICA deduction available to W2 employees. The 15.3% SE tax rate is then applied to $242,438. For general partners, the full distributive share of ordinary business income is subject to selfemployment tax — it is not passive income.

16. A — Inpatient hospitalization is one of three severe injury categories triggering OSHA's 24hour reporting requirement. Both hospitalizations must be reported within 24 hours of the employer learning of the injuries. The structural collapse should also be thoroughly investigated to determine root cause — formwork design, shoring capacity, concrete placement sequence, or load calculation errors — and the investigation findings used to prevent recurrence.

17. C —contract documents contain genuine ambiguities, the doctrine of contra proferentem construes ambiguities against the drafter (the owner/architect who prepared the specifications). The contractor's reasonable interpretation of the ambiguous specification — choosing the less expensive model — is a legitimate basis for a change order when the architect later clarifies that the more expensive model was intended.

18. D — Standing water, saturated trench walls, and tension cracks fundamentally change the soil's stability. The original Type A classification is no longer valid — water saturation eliminates cohesive strength, and tension cracks indicate the soil mass is separating. The competent person must reclassify the soil (likely to Type C given the conditions), upgrade the protective system to match the new classification, and prohibit reentry until the revised protection is in place.

19. B — Total assets: $42,000 + $510,000 + $95,000 + $18,000 + $13,000 + $460,000 = $1,138,000. Total liabilities: $340,000 + $48,000 + $55,000 + $62,000 + $280,000 = $785,000. Net worth: $1,138,000 − $785,000 = $353,000. Current assets: $678,000 (excluding equipment). Current liabilities: $505,000 (excluding longterm debt). Working capital: $678,000 − $505,000 = $173,000.

20. A — The injury was caused by the contractor's crew leaving lumber on a walkway — a negligent act directly attributable to the contractor. The indemnification clause requires the contractor to indemnify the owner for claims caused by the contractor's negligence. The contractor must defend the owner against the visitor's lawsuit and bear the financial responsibility for the claim, typically through the contractor's CGL policy.

21. C — OSHA's steel erection standard provides a limited fall protection exemption for connectors only between 15 and 30 feet during initial connection activities. Above 30 feet, conventional fall protection (guardrails, safety nets, or personal fall arrest systems) is mandatory for all workers including connectors. At 45 feet, there is no exemption — full conventional fall protection must be provided at all times.

22. B — The contractor bears both the cost and schedule impact because the fire marshal identified deficiencies in the contractor's installation. The contractor should have caught these issues through internal quality control before requesting the official inspection. Failed inspections due to workmanship deficiencies are the contractor's responsibility — the correction cost and the 10day delay are not passthrough items to the owner.

23. A — Profit: $1,100,000 − $935,000 = $165,000. Margin: $165,000 ÷ $1,100,000 = 15% (profit as percentage of selling price). Markup: $165,000 ÷ $935,000 = 17.65% (profit as percentage of cost). Markup is always higher than the equivalent margin because it uses the smaller denominator (cost vs. selling price). This relationship is consistent — 15% margin always equals 17.65% markup.

24. D — A design revision requiring demolition of correctly completed work is an ownerdirected change. The architect is the owner's agent, and changes to the approved design that require rework are the owner's responsibility. The contractor built the foundations correctly per the original approved drawings — the owner cannot retroactively shift the cost of design changes to the contractor by arguing the contractor should have anticipated revisions.

25. A — Combined salaries subject to payroll taxes: $105,000 + $85,000 = $190,000. Combined distributions avoiding payroll/SE taxes: $95,000 + $65,000 = $160,000. Since the IRS confirmed both salaries as reasonable, the Scorporation tax treatment operates as intended — the $160,000 in distributions passes through as ordinary income subject to personal income tax but not FICA or selfemployment tax.

26. B — Welding near smoke detectors without disabling them (with proper approval and fire watch) or installing smoke guards is a foreseeable cause of false alarms. The contractor should have anticipated this hazard and taken preventive measures. The failure to implement standard constructioninoccupiedbuilding protocols — specifically protecting or temporarily disabling the affected detector — constitutes negligence that makes the contractor liable for the resulting business disruption.

27. C — Each subcontractor payment is evaluated independently against the contractual 14day deadline. The first payment (April 10) is within the 14day window — compliant. The second payment (April 28) exceeds the April 15 deadline (April 1 + 14 days) by 13 days — a breach. Paywhenpaid clauses create enforceable timelines, and compliance is measured separately for each payment obligation.

28. A — An approved change order that extends the contract time also extends the completion date from which liquidated damages are measured. The 2week extension becomes part of the new contractual deadline. Liquidated damages apply only to delays beyond the revised completion date. The owner cannot add scope, add cost, extend the schedule through an approved change, and then assess liquidated damages for the extension period they approved.

29. D — A diagonal crack at approximately 45 degrees in a structural beam is potentially a shear crack — one of the most serious structural concerns in concrete construction. Shear cracks indicate the beam may be experiencing stresses exceeding its capacity, and unlike flexural cracks (vertical, at midspan), shear cracks can precede sudden, catastrophic failure. Immediate notification of the structural engineer is essential for evaluation and potential emergency shoring.

30. B — The contractor has a 12month warranty gap. The subcontractor's warranty covers Year 1, but the prime contract requires Year 2 coverage. If the elevator fails between Month 13 and Month 24, the contractor must repair it under the prime contract warranty but cannot recover from the subcontractor. The lesson: subcontract warranty terms should always match or exceed the prime contract requirements — this gap should be addressed during subcontract negotiation.

31. A — A CPM schedule includes logical relationships between activities, predecessor/successor dependencies, critical path identification, float calculations, and the ability to analyze delay and change impacts. A bar chart without CPM logic provides none of these analytical capabilities. The contract specifically requires CPM, and the bar chart submission does not meet this requirement. The rejection is justified.

32. C — Builder's risk insurance proceeds are used to restore the damaged work to its prefire condition. The policy exists to protect the project investment — the funds must be applied to repair and rebuilding, not distributed as profit or held by any party for other purposes. The specific disbursement procedures are governed by the contract terms and insurance policy provisions, typically requiring the work to be rebuilt before full proceeds are released.

33. B — The contractor failed to follow the bedding and backfill specifications. Using native soil instead of crushed stone and excavated material instead of select fill directly caused the settlement and joint failure. The inspector's failure to catch the deviation during construction does not shift the contractor's obligation to build per specifications. The contractor bears primary liability for the defective work regardless of the inspection outcome.

34. D — A multimember LLC without a tax election is taxed as a partnership. Each managing member's 50% distributive share of $480,000 is $240,000. The SE tax base is 92.35% of $240,000 = $221,640. Each member pays 15.3% SE tax on this amount (12.4% Social Security up to the wage base plus 2.9% Medicare on all earnings). Both members are managing members, so both owe SE tax on their full distributive shares.

35. A — Tremolite asbestos at 2% exceeds the 1% threshold triggering full OSHA compliance. Tremolite is an amphibole asbestos — considered more hazardous than chrysotile because of its needlelike fiber structure. All regulated work practices apply: worker training, exposure monitoring, respiratory protection, wet methods, HEPA filtration, regulated work areas, and licensed disposal. The fact that it is in vermiculite insulation does not exempt it from regulation.

36. C — Each specialty classification requires its own trade examination and additional fee ($100 per specialty). The Building Construction major classification does not automatically include electrical or any other specialty trade. The contractor must pass the Electrical trade exam through PSI and pay the additional fee. The qualifying party must have appropriate qualifications for the added classification.

37. B — Contract price: $740,000 + $111,000 + $38,000 + $111,000 = $1,000,000. Actual total cost: $770,000 + $115,500 + $45,000 = $930,500. Actual profit: $1,000,000 − $930,500 = $69,500. Actual margin: $69,500 ÷ $1,000,000 = 6.95%. The $41,500 profit reduction ($111,000 − $69,500) was consumed by cost overruns in direct costs ($30,000), overhead ($4,500), and indirect costs ($7,000).

38. D — Inpatient hospitalization triggers OSHA's 24hour reporting requirement — one of three severe injury categories alongside amputations and eye losses. The 24hour clock begins when the employer learns of the hospitalization. The fact that the employee was wearing a hard hat demonstrates PPE compliance but does not affect the reporting obligation. The incident must also be recorded on the OSHA 300 Log.

39. C — Type V cement is specifically formulated to resist sulfate attack through reduced tricalcium aluminate content. Type I cement is vulnerable to sulfatecontaining soils — the sulfates react with the cement's aluminate compounds, causing expansion, cracking, and progressive deterioration. Using Type I in documented sulfate conditions will cause premature concrete failure, potentially requiring removal and replacement of the foundation walls.

40. A — The overhead rate has increased from 15% ($360,000 ÷ $2,400,000) to 20% ($360,000 ÷ $1,800,000) because the same fixed overhead is spread across less direct cost volume. Bidding at the old 15% rate underrecovers overhead by 5% on every project: $1,800,000 × 5% = $90,000 in unrecovered overhead. Lower volume makes each project's overhead share heavier — the rate must be recalculated when volume changes significantly.

41. B — The manufacturer may deny the warranty claim because noncertified installers performed the work, voiding the warranty conditions. The contractor would then bear full responsibility for all roof repairs under the prime contract warranty with no manufacturer recovery. Verifying subcontractor certifications before allowing installation is essential — warranty coverage depends on proper installation by qualified personnel.

42. D — A cure notice is a formal contractual step that precedes a potential termination for cause. The contractor must respond substantively within the 30day window with a detailed recovery plan demonstrating specific corrective measures, revised milestone dates, and a credible path to achieving the contractual completion. Failing to respond adequately — or ignoring the notice — provides the owner with documented grounds for termination for cause.

43. C — Liquidated damages: 42 days × $2,000 = $84,000. The mutual waiver of consequential damages bars recovery of the $180,000 in lost rental income because lost rental income is a consequential (indirect) damage. The liquidated damages clause provides the agreedupon remedy for delay — it replaces actual delay damages with the preagreed daily amount. The owner recovers $84,000, not $84,000 plus $180,000.

44. A — Moderate thumb penetration shows medium cohesive strength. Visible cracks indicate reduced stability. Previous disturbance from the adjacent utility work disqualifies the soil from

Type A classification — OSHA specifies that previously disturbed soil cannot be classified as Type A regardless of other characteristics. The combination of moderate cohesion, visible cracking, and prior disturbance points clearly to Type B.

45. B — The specification requires a grease interceptor in the kitchen drain line. The contractor cannot unilaterally determine that an existing downstream interceptor is adequate — that is a design decision, not a construction decision. The plumbing inspector correctly failed the roughin because the specified equipment was not installed. The contractor must install the specified grease interceptor and request reinspection.

46. D — Even though the owner bears remediation responsibility, the contractor must protect workers during excavation of contaminated soil. This requires a sitespecific health and safety plan, appropriate PPE for petroleum exposure, air monitoring for VOCs, contaminated soil handling procedures (segregation, lined stockpile areas, covering), and compliance with environmental regulations. The owner's remediation responsibility does not eliminate the contractor's worker protection obligations.

47. C — VE savings distribution is governed by the contract's value engineering provisions. Some contracts give all savings to the contractor as an incentive to identify efficiencies. Others split savings (commonly 50/50 or 60/40). Others allocate all savings to the owner. There is no universal rule — the specific VE sharing clause in the contract determines how the $65,000 is distributed between the parties.

48. C — Chronic overbilling and declining liquidity are serious warning signs for the surety. The surety may require additional collateral or personal indemnity, increase monitoring frequency, restrict new bonded work, and potentially reduce the bonding program. These measures protect the surety's financial position while signaling to the contractor that corrective action is needed. The surety's response is proportional to the severity of the financial deterioration.

49. B — Air entrainment creates microscopic bubbles that provide pressure relief when water in the concrete freezes and expands. Without adequate air content (57% specified), the expansive forces damage the concrete from within — causing surface scaling, spalling, and progressive deterioration over multiple freezethaw cycles. Even Mississippi experiences enough freezethaw cycles to damage nonairentrained exterior concrete.

50. D — The staged approach maximizes efficiency: answer the 15 confident questions quickly (~15 minutes) to bank correct answers and build momentum. Then work through the 20 reference questions using the tabbed guide (~50 minutes) for efficient lookup. Finally, devote the remaining ~55 minutes to the 15 analytical questions requiring careful reasoning. This prioritization ensures the easiest points are captured first while reserving maximum time for the hardest questions.