



NAME: \_\_\_\_\_

INTECH 311 Midterm Exam

DATE: \_\_\_\_\_

YEAR AND SECTION: \_\_\_\_\_

GENERAL DIRECTION: \_\_\_\_\_

- READ AND ANSWER CAREFULLY
- YOU MUST CLEARLY ENCIRCLE THE LETTER (A, B, C, OR D) CORRESPONDING TO YOUR CHOSEN ANSWER DIRECTLY ON THIS EXAM PAPER.
- IF YOU CHANGE YOUR MIND, COMPLETELY CROSS OUT THE ORIGINAL CIRCLE AND THEN CLEARLY ENCIRCLE YOUR NEW CHOICE. DO NOT LEAVE TWO CHOICES CIRCLED.

Test I: multiple choice:

1. Which of the following is usually the first stage in an innovation process?
  - a) Prototype testing
  - b) Idea generation
  - c) Commercial launch
  - d) Market feedback
2. In the innovation process, "validation" refers to which step?
  - a) Generating many ideas without sorting them
  - b) Testing whether a prototype meets user needs
  - c) Funding large-scale production
  - d) Marketing the finished product to many customers
3. Why is prototyping an important stage in the innovation process?
  - a) It completes all design work without need for feedback
  - b) It turns conceptual ideas into a tangible form to learn what works or doesn't
  - c) It ensures that no changes will be made later
  - d) It skips market research altogether
4. What is the role of "iteration" or "feedback loops" in the innovation process?
  - a) To finalize design without further testing
  - b) To allow improvements and corrections based on real user responses
  - c) To delay the launch as long as possible
  - d) To avoid doing market launch
5. Suppose a student's team has developed a functional prototype of a gadget but users complain about usability issues. Which stage should they go back to?
  - a) Commercial launch
  - b) Idea generation
  - c) Prototyping / redesign based on feedback
  - d) Market validation
6. An innovator has collected data from potential customers and discovered a mismatch between what customers want and what the prototype does. What should they do next?
  - a) Proceed to full production anyway
  - b) Modify the prototype or pivot direction
  - c) Skip validation and go directly to marketing
  - d) Dismiss customer feedback
7. Compare two innovation projects: Project A spent more time in user testing, iterated several times; Project B launched quickly with minimal testing. Which one is likely to have fewer issues in market launch and why?
  - a) Project B, because speed always beats refinement
  - b) Project A, because testing and iteration help uncover problems early
  - c) Both will have the same issues regardless
  - d) Project B, since less iteration improves morale
8. What might be the risk if an innovator skips the "market validation / feedback" stage and goes straight from prototype to commercialization?
  - a) They save time and ensure success
  - b) They may produce a product people don't want or that has flaws, leading to failure
  - c) Users will surely like it anyway
  - d) It reduces costs significantly
9. Which of the following shows how the innovation process is not strictly linear but iterative?
  - a) Moving once from idea to launch without revisiting previous stages

- b) Repeatedly going back to prototype after customer feedback before launch
- c) Skipping validation because you already believe in your idea
- d) Only doing testing at the very end
10. Two innovation teams: Team X spends more on prototype development and many user tests, delaying launch; Team Y launches faster with fewer tests. From the standpoint of long-term sustainability, which approach is more justifiable and why?
- a) Team Y, because rapid launch captures market first even if imperfect
- b) Team X, because investing in testing and refinement likely builds better product, reputation, and reduces risk of failure
- c) Both are equally good always
- d) Neither matters, success depends only on marketing budget
11. Suppose you are asked to design your own innovation process for a tech solution. Which sequence would BEST reflect a robust process, including iteration?
- a) Idea generation → Prototype → Launch → No feedback
- b) Idea generation → Problem definition → Prototype → Test/Validation → Feedback & iteration → Commercial Launch
- c) Launch immediately after idea → Hope for demand
- d) Prototype → Market launch → Idea generation
12. Which of the following best describes "opportunity identification" in entrepreneurship?
- a) Developing a prototype for a random idea
- b) Spotting a real problem or market need that can be addressed with technology
- c) Launching a product without prior research
- d) Selling an existing technology without change
13. Why is market assessment a critical part of opportunity assessment?
- a) It guarantees the idea will succeed without effort
- b) It helps determine whether enough demand exists and whether entry barriers are manageable
- c) It only measures the inventor's technical skill
- d) It ignores competition and costs
14. Suppose a student surveys potential users and finds that many people complain about long waiting times in local clinics. Which stage are they doing?
- a) Opportunity idea generation
- b) Opportunity validation / assessment
- c) Commercial launch
- d) Final production
15. Which of the following best analyzes the importance of combining "technical feasibility" and "market desirability" when assessing an opportunity?
- a) Only technical feasibility matters; market demand is secondary
- b) Even if the market is large, if the technology can't be built or cost-effectively produced, the opportunity may fail
- c) Market desirability is irrelevant if the technology is elegant
- d) Technical feasibility guarantees success regardless of market
16. Two ideas: Idea A solves a huge market pain but requires expensive hardware; Idea B addresses a smaller pain but can be built with low cost. Which idea is more justifiable to pursue, all else equal?
- a) Idea A, because large market means higher profit potential
- b) Idea B, because its lower cost and easier implementation reduce risk and increase chance of success
- c) Neither, because the market size is the only concern
- d) Both equally
17. You are tasked to propose a new technology-based venture. Which plan BEST shows good opportunity identification & assessment?
- a) Brainstorm an idea → build immediately without talking to users
- b) Observe daily pain points in people → propose 2-3 possible technological solutions → survey users for interest, willingness to pay, and competitive alternatives → pick one to prototype
- c) Copy a successful product abroad without checking local conditions
- d) Build the most advanced tech you can imagine, then find users
18. What does "TRL" stand for in innovation and technology development?
- a) Technical Resource Level
- b) Technology Readiness Level
- c) Trade Readiness Limit
- d) Technical Resource Limit

19. In the TRL scale commonly used, what is the highest level indicating full maturity?
- a) TRL 5
  - b) TRL 7
  - c) TRL 9
  - d) TRL 11
20. Why is a TRL scale useful in technopreneurship?
- a) It guarantees product success in market regardless of testing
  - b) It provides a consistent way to assess how mature or ready a technology is for commercialization
  - c) It replaces the need for market research
  - d) It only measures cost of production
21. If a technology is at TRL 3, what does that generally mean?
- a) It is already commercialized and in full production
  - b) Basic proof-of-concept has been demonstrated in lab conditions
  - c) It is fully tested in real use environments
  - d) It's ready to scale globally
22. A student group has built a small functional prototype of a wearable health sensor in a lab setting. Which TRL level does this most likely correspond to?
- a) TRL 2
  - b) TRL 3 or 4
  - c) TRL 8
  - d) TRL 9
23. An innovator tests their prototype in the field with actual users and collects performance data in real conditions. What TRL stage is this an example of?
- a) Early concept stage
  - b) Lab-based validation
  - c) Field validation (higher TRL)
  - d) Commercial launch
24. Suppose two technologies: Tech A has been validated in lab environments up to TRL 5 but has never been tested in real operational settings; Tech B has been tested and validated in real settings (TRL 7) but with limited scale. Which is likely lower risk for commercialization and why?
- a) Tech A, because lab tests suffice
  - b) Tech B, because real-world validation reduces uncertainty in actual operation
  - c) They have equal risk
  - d) Risk depends only on marketing, not TRL
25. What is a potential pitfall of relying solely on TRL to decide whether to commercialize?
- a) TRL always captures market desirability
  - b) TRL doesn't consider customer acceptance, regulatory hurdles, or costs fully
  - c) TRL includes all business risk metrics already
  - d) TRL always overestimates readiness
26. How does the TRL concept help in planning resource allocation for a technology project?
- a) It shows exactly how many users will adopt a product
  - b) It helps allocate more resources (testing, validation, infrastructure) as one moves to higher TRL levels
  - c) It ignores the need for funding in early stages
  - d) It mandates immediate mass production
27. If you must decide whether to continue funding a tech project at TRL 4 versus investing in a different idea at TRL 2, which would you choose and why (assuming your mission is to bring a product to market)?
- a) Continue TRL 4, because it is closer to commercialization and lower risk
  - b) Invest in TRL 2, because earlier stage might yield bigger returns
  - c) Both equally
  - d) Neither matter
28. Suppose you are designing a new TRL scale tailored to your local industry (e.g. in the Philippines). Which approach would BEST reflect both technical maturation and market readiness?
- a) A linear scale from 1 to 9 identical to NASA's version
  - b) A multi-dimensional scale combining technical readiness, regulatory readiness, user acceptance, and cost viability
  - c) A scale that only measures lab test results
  - d) A scale that jumps immediately from prototype to commercialization
29. What does an entrepreneurial mindset primarily refer to?

- a) The ability to memorize business facts  
b) The attitude and way of thinking that identify opportunities and create value from them  
c) The willingness to avoid risks in any business  
d) The focus on technical work alone without innovation
30. Why is resilience considered an important habit of a technopreneur?  
a) Because failure is rare in business  
b) Because entrepreneurs must bounce back from setbacks and continue improving ideas  
c) Because it guarantees immediate success  
d) Because it reduces creativity and curiosity
31. A student team faces repeated prototype failures but continues testing and learning from mistakes until the design works. Which entrepreneurial habit are they demonstrating?  
a) Complacency  
b) Perseverance and learning from failure  
c) Avoidance of feedback  
d) Overconfidence
32. Which of the following best analyzes how mindset influences entrepreneurial success?  
a) A growth-oriented mindset drives innovation and persistence, while a fixed mindset limits adaptation  
b) Mindset has no effect on business success  
c) A fixed mindset ensures stability in business  
d) A growth mindset avoids risks and experimentation
33. Two aspiring technopreneurs: one focuses only on profit, while the other values solving real problems through technology. Who is more aligned with the entrepreneurial mindset and why?  
a) The first, because profit is the only goal of business  
b) The second, because technopreneurship aims to create value and impact through innovation  
c) Both equally, since both are entrepreneurs  
d) Neither, because mindset doesn't affect outcomes
34. If you were to design a short classroom program to build the entrepreneurial mindset among students, which activity would be BEST?  
a) Memorizing the definitions of entrepreneurship terms  
b) Conducting an innovation challenge where students identify a real problem and pitch a tech-based solution  
c) Watching business movies without reflection  
d) Reading a list of famous entrepreneurs only
35. In Luis Sison's "Cat, Pig, and Frog" innovation framework, what does each animal represent?  
a) Cat – imitator; Pig – inventor; Frog – innovator  
b) Cat – adaptive innovator; Pig – idea creator; Frog – technology integrator  
c) Cat – copycat innovator; Pig – idea originator; Frog – technology jumper  
d) Cat – visionary; Pig – planner; Frog – marketer
36. What is the main difference between a "Pig" and a "Frog" innovator?  
a) The Pig focuses on creating new technologies, while the Frog focuses on applying existing technologies in new contexts  
b) The Pig imitates ideas, while the Frog invents them  
c) The Pig copies others' ideas, while the Frog avoids technology  
d) The Pig and Frog both reject innovation
37. A student startup uses an existing mobile payment system but customizes it for rural markets where connectivity is limited. According to Sison's framework, which type of innovator are they acting as?  
a) Cat  
b) Pig  
c) Frog  
d) None of the above
38. Which of the following best analyzes how the Cat, Pig, and Frog differ in innovation approach?  
a) The Cat copies and improves ideas, the Pig invents new technology, and the Frog leaps by applying existing technologies in creative ways  
b) The Cat avoids innovation, the Pig delays progress, and the Frog rejects technology  
c) The Cat and Frog both invent new things  
d) All three represent identical innovation paths
39. If a company wants to minimize risk but still offer new value in the market, which innovation strategy might be most suitable and why?  
a) Cat strategy, because it improves existing ideas and reduces uncertainty  
b) Pig strategy, because it focuses only on radical inventions

- c) Frog strategy, because it ignores existing markets.  
d) Pig strategy, because it avoids using current technology.
40. Imagine you are mentoring student entrepreneurs. Which activity would BEST help them apply the Cat, Pig, and Frog framework?
- Asking them to describe their favorite animals.
  - Having them analyze their startup idea to determine whether they are copying, inventing, or creatively applying technology, and then improving their approach.
  - Asking them to memorize definitions only.
  - Letting them create any project without reflection.
41. What is the primary purpose of the 'Customer Segments' block in the Business Model Canvas?
- To define the company's value proposition.
  - To identify the target audience and their needs.
  - To outline the revenue streams.
  - To list the key resources required.
42. How does the 'Value Proposition' component of the Business Model Canvas contribute to value creation?
- By detailing the company's cost structure.
  - By describing the unique benefits offered to customers.
  - By listing the distribution channels.
  - By identifying key partners.
43. In the context of the Business Model Canvas, what role do 'Key Activities' play in value creation?
- They define the customer segments.
  - They outline the essential actions to deliver the value proposition.
  - They describe the company's revenue streams.
  - They list the key resources required.
44. A startup is developing a mobile app for farmers to monitor crop health. Which component of the Business Model Canvas should they focus on to ensure the app addresses the specific needs of farmers?
- Customer Segments
  - Key Resources
  - Revenue Streams
  - Channels
45. During a market validation process, a team receives feedback that their product's user interface is confusing. Which part of the Business Model Canvas should they revisit to address this issue?
- Value Proposition
  - Customer Relationships
  - Key Activities
  - Channels
46. A company has identified multiple customer segments but lacks clear differentiation in its value propositions for each segment. What potential issue could arise from this approach?
- Increased customer loyalty.
  - Confusion among customers about the product's benefits.
  - Simplified marketing strategies.
  - Streamlined revenue streams.
47. If a startup's 'Key Partners' are not aligned with its 'Key Activities,' what is the likely consequence?
- Enhanced operational efficiency.
  - Misalignment in strategic objectives.
  - Increased customer satisfaction.
  - Streamlined cost structure.
48. A business model canvas reveals that a company's 'Revenue Streams' are heavily dependent on a single customer segment. What risk does this pose?
- Diversification of income sources.
  - Over-reliance on a specific market segment.
  - Increased market share.
  - Enhanced customer loyalty.
49. Considering the Business Model Canvas, which component is most critical to assess when determining the feasibility of a new product idea?
- Key Resources
  - Customer Segments
  - Revenue Streams
  - Value Proposition

- c) Frog strategy, because it ignores existing markets
  - d) Pig strategy, because it avoids using current technology
40. Imagine you are mentoring student technopreneurs. Which activity would **BEST** help them apply the Cat, Pig, and Frog framework?
- a) Asking them to describe their favorite animals
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- a) Key Resources
  - b) Customer Segments
  - c) Revenue Streams
  - d) Value Proposition

50. Design a brief Business Model Canvas for a tech startup offering an online platform for remote learning. Which combination of components would be most appropriate to include?
- a) Customer Segments, Value Proposition, Channels, Revenue Streams
  - b) Key Partners, Customer Relationships, Cost Structure, Key Activities
  - c) Key Resources, Channels, Revenue Streams, Customer Segments
  - d) Value Proposition, Key Activities, Key Partners, Cost Structure

END ☺☺☺

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