**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE**

**DMYTRO MOTORNYI TAVRIA STATE AGROTECHNOLOGICAL UNIVERSITY**

| Approved by the methodical committee of the  *Business and Economics Faculty* | Approved and recommended to publishing on the session of the *Marketing Department* |
| --- | --- |
| The Head of the committee | The Head of the Department |
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| Protocol No \_\_\_\_  from "\_\_\_\_" \_\_\_\_\_\_\_\_\_\_\_\_\_2021 | Protocol No \_\_\_\_  from "\_\_\_\_" \_\_\_\_\_\_\_\_\_\_\_\_\_2021 |

**DESIGN THINKING**

**TESTS**

for the Master Degree applicants

on the ***075 Marketing*** Speciality

The Design Thinking Tests were developed in the framework of ERASMUS+ CBHE project “Digitalization of economic as an element of sustainable development of Ukraine and Tajikistan” / DigEco 618270-EPP-1-2020-1-LT-EPPKA2-CBHE-JP

**Melitopol, 2022**

                                                            **Design Thinking**. Tests for the Master Degree applicants on 075 Marketing Speciality. Melitopol, TSATU, 2022. 19 p.

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**INFORMATION MAP OF THE TEST MATERIALS**

1. General data

1.1. Specialty (direction)

1.1.1. Name *Marketing*

1.1.2. Code *075*

1.2. Discipline

1.2.1. Name *Design Thinking*

1.2.2. Index according to the Educational Program

□ General humanities and socio-economic disciplines

□ General mathematical and natural science disciplines

* General professional disciplines

□ Special disciplines

* + - 1. 1.2.3. The amount of hours \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  1. 1.3. Author's team of developers

| Full name | Qualification | | | Position, place of work |
| --- | --- | --- | --- | --- |
| Degree | Rank | In the field of testology |  |
| Anastasiia  Konovalenko | Doctor of Economics | Associate Professor |  | Associate Professor at Marketing Department |
| Olena  Titova | Doctor of Education | Associate Professor |  | Associate Professor at Food Process Engineering Department |

1. 1.4. The purpose of creating a bank of test tasks: the formation of tests to assess the quality of student learning (current control / final control / control of residual knowledge) current control / final control / control of residual knowledge
2. 1.5. Development period

start:\_\_\_\_\_\_ finish: \_\_\_\_\_\_\_\_

1.6. Approbation of a bank of test tasks (if any)

1.6.1. Period: start:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

finish: \_\_\_\_\_\_\_\_\_\_

1.6.2. Venue:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. 1.7. Examination of test materials (if any)
   1. 1.7.1. Experts

| Full name | Qualification | | | Position, place of work |
| --- | --- | --- | --- | --- |
| Degree | Rank | In the field of testology | Degree |
|  |  |  |  |  |

2. Specification of tests formed on the basis of a bank of test items

2.1 The total number of test items \_\_\_\_\_\_\_\_\_ units.

* 1. 2.2. Test type

monoform (specify items form) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ polyform

2.3. Methods of test formation

2.3.1. The length of the test: \_\_\_\_\_\_\_\_\_\_\_\_ items (test items).

2.3.2. Time constraints

the test is limited in time \_\_\_\_\_\_\_\_ min. (the maximum allowable duration of the test is indicated)

2.3.3. The rule of forming a test sequence

□ given sequence of test items (specify the test items in the required order)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ random selection of items

* 1. 2.4. Evaluation of test results
  2. 2.4.1. The method of calculating the result of the evaluation of the test

□ summation of points for each test item

2.4.2. Type of the rating scale

□ nominal □ ordinal

2.4.3. Method of translating test evaluation result into evaluation scale (Correspondence table of evaluation result of evaluation test scale)

**COURSE STRUCTURE**

***Module 1. Methods of problem diagnostics***

**Topic 1.** The concept of design thinking: principles, process. Empathy: understanding human needs and shortcomings. Design thinking as a basis of modern methods of innovation. Characteristic features and categories of design thinking. Models of design thinking. The essence of the process of design thinking, its characteristics. The main stages of design thinking. Properties of design thinking. Intuition and its role in thinking. Intuition and creativity. Examples of successful use of design thinking. Empathy in the world of different theoretical approaches. Methodological bases of research of human empathy. Experience as a meaningful basis of empathy processes. Classification of empathic relationships.

**Topic 2.** Problem definition: reformulation and problem definition in human-oriented ways. Analysis of consumer behaviour in order to identify problems, new needs and benefits. Principles of consumer ethnography. Tools for describing and analysing consumer behaviour. Empathic card. Consumer social network. Consumer profile. Timeline. Service card. Storyboards.

**Topic 3.** Ideas Generating: techniques and tools for creating the concept of solutions. The problem and its context. Identification of key discrepancies. Problem structuring tools. Description of key discrepancies and their ranking. Deduction, induction, abduction. Divergent and convergent thinking. Integral thinking of R. Martin. Methods of stimulating creative activity. Methods of finding new ideas. Principles and approaches of the theory of solving inventive problems. Game equipment and gamestorming. Selection, sorting and structuring of basic ideas. Formulation of hypotheses.

***Module 2. Modelling the concept of problem solving***

**Topic 4.** Prototyping: application of a practical approach to modeling ideas. The essence of the prototyping process. Prototyping models. Features of prototyping. Classification of prototyping tools. Choosing a tool for prototyping. Modernization of the prototype. Creation of interactive prototypes with the use of information technology. Paper prototyping: advantages and disadvantages. Rapid prototyping: Purpose and scope. Prototyping technologies.

**Topic 5.** Testing: development of a prototype of the variant of the decision of a problem and an estimation of the received results. Development of functional and elemental models. Models of functioning of goods and services. Design development. Defining the information image of the product. Classification of types of testing. Prototype testing algorithm. Narrative design. Defining tasks when testing a prototype. The essence of the testing process, its characteristics. Harris chart. Further product development.

***TABLE OF TEST ITEMS SPECIFICATION IN THE ACADEMIC DISCIPLINE***

Distribution of test items by topics according to difficulty levels:

«1» **–** relatively light, standard; «2» **–** standard, medium, relevant to the themes of the author's program; «3» **–** complex, non-standard

**Table of test items base specification in the academic discipline**

| Topic | Subtopic | Difficultylevel | | |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 |
| 1 | 1.1 | 1,2 | 3,4 | 5-7 |
| 1.2 | 8,9 | 10-12 | 13,14 |
| 1.3 | 15-17 | 18 |  |
| 2 | 2.1 | 19-21 | 22 | 23,24 |
| 2.2 | 25,26 | 27 | 28-30 |
| 3 | 3.1 | 31-34 | 35,36 |  |
| 3.2 | 37,38 |  |  |
| 3.3 |  | 39,40,41 | 42 |
| 4 | 4.1 | 43,44 | 45-47 | 48 |
| 4.2 | 49-52 |  |  |
| 5 | 5.1 | 53-54 | 56,57 | 58 |
| 5.2 | 59,60 | 61,62 | 63,64 |
| 5.3 | 65,66 | 67-69 | 70 |

**TEST ITEMS**

:: 001 :: Systematized method of collective work on identification and creative solution of the problem is:

a) design thinking;

b) empathy;

c) prototyping;

d) the project

:: 002 :: Design thinking is a method of … development.

a) products, services, services;

b) ideas, missions, visions;

c) brands and trademarks;

d) projects, programs, instructions.

:: 003 :: Design thinking is a method of developing products, services, services focused on the consumer (user). It is based on:

a) reference to consumer demand, opportunities for technical implementation and economic opportunities;

b) the desire to create an innovative product;

c) a guideline for ensuring the profitability of production and solving technical problems of production;

d) the focus on strengthening the competitive position of producers of products and services.

:: 004 :: The characteristic features of design thinking do not include:

a) a reference point for taking into account the material and spiritual values of mankind;

b) focusing on personal scenarios of behaviour and actions;

c) delayed departure to determine the problem;

d) immersion in the experience of the consumer.

:: 005 :: Key principles of design thinking are:

a) human-centeredness and creative worldview;

b) profitability and competitiveness;

c) design and testing;

d) testing and justification of decisions.

:: 006 :: Divergent thinking involves:

a) search for multiple solutions to the same problem;

b) the exact use of instructions for solving the problem;

c) generalization of universal experience;

d) exclusion of decisions that do not meet the established evaluation criteria.

:: 007 :: Convergent processing provides:

a) the exact use of instructions for solving the problem;

b) search for multiple solutions to the same problem;

c) generalization of universal experience;

d) exclusion of decisions that do not meet the established evaluation criteria.

:: 008 :: In order to effectively implement innovations, strengthen competitiveness, organizations are increasingly turning to the use of:

a) design thinking as a product development process;

b) creative vision as a product development process;

c) design and forecasting;

d) copyright protection.

:: 009 :: Scientists note that the process of design thinking involves three elements that are not consistent, but intersect:

a) inspiration, idea, realization;

b) project, prototype, forecast;

c) creation, testing, production;

d) single, serial, mass production.

:: 010 :: Sidney Gregory in his *Design Method* publication (1966) stated that design is a … process:

a) constructive;

b) analytical;

c) convergent;

d) divergent.

:: 011 :: The design process is divided into three main phases:

a) observe, imagine, create;

b) specify, detail, consolidate;

c) analyze, evaluate, choose;

d) rank, justify, make calculations.

:: 012 :: Stanford School of Design divides the process of design thinking into several stages:

a) empathy, focusing, generating ideas, prototyping, testing;

b) immersion, modeling, optimization, substantiation;

c) focusing, generating ideas, prototyping, testing;

d) planning, organization, motivation, control.

:: 013 ::… means expanding the angle of view, collecting all the findings and ideas:

a) divergence;

b) convergence;

c) analysis;

d) synthesis.

:: 014 ::… involves narrowing the focus and selecting a priority idea to be tested, processed in the following stages:

a) divergence;

b) convergence;

c) analysis;

d) synthesis.

:: 015 :: The ability to imagine yourself in the place of another person, the ability to empathize is called …:

a) empathy;

b) insight;

c) a map of empathy;

d) focusing.

:: 016 :: Sudden "enlightenment", when a person understands the ways to solve a problem situation - is:

a) insight;

b) empathy;

c) a map of empathy;

d) focusing.

:: 017 :: Graphic diagram where the central element is a consumer, who is surrounded by different information blocks depending on the task, is called …:

a) a map of empathy;

b) organizational structure;

c) prototype;

d) storyboard.

:: 018 :: The main task of compiling a map of empathy is:

a) creating a detailed portrait of the ideal consumer of a particular product;

b) creating a visual prototype of the product;

c) creating a semantic core of the site;

d) determining the factors of product competitiveness.

:: 019 :: Empathy involves the study of the initial problem through:

a) immersion in the natural environment in which man is;

b) assessment of the socio-economic status of the person;

c) determining the characteristics of the product life cycle;

d) consumer perception of brand value.

:: 020 :: Qualitative methods of research of consumer behaviour include…:

a) all these answers;

b) in-depth interview;

c) projection method;

d) focus group method.

:: 021 :: Quantitative methods of researching consumer behaviour include…:

a) all these answers;

b) survey;

c) observation;

d) experiment.

:: 022 :: An important starting point for identifying problems, needs and benefits of innovative products (services) is…:

a) analysis of consumer behaviour;

b) assessment of the level of product competitiveness;

c) determining the characteristics of the product life cycle;

d) assessment of consumer perception of brand value.

:: 023 ::… is a set of methods aimed at "fixing" the real behaviour of people with their subsequent interpretation:

a) ethnography;

b) divergence;

c) convergence.

d) empathy.

:: 024 :: Advantages of ethnographic marketing include:

a) emotional rapprochement and consideration of the cultural aspect;

b) obtaining objective information on the historical aspects of consumer traditions of a particular ethnic group;

c) collection of observations of human behaviour and analysis of in-depth interviews;

d) prototyping of product models and advantages of offers.

:: 025 :: The form for collecting observations of human behaviour and analysis of in-depth interviews is:

a) maps of empathy;

b) consolidated report;

c) diary of observations;

d) questionnaires.

:: 026 :: Consumer profile provides specific tools that allow:

a) all options are correct;

b) develop a clear argument;

c) find the right form of information;

d) determine the time and place of advertising.

:: 027 :: Involving customers in the development and testing of new ideas for creating new products with high value is due to:

a) co-creation with the client;

b) mapping of thoughts;

c) storytelling;

d) visualization.

:: 028 :: User profile is…:

a) a detailed description of the target audience for which the innovative product (service) is created;

b) a list of needs and values of the potential consumer;

c) a system of factors influencing the consumer decision-making process;

d) graphical interpretation of market segmentation results.

:: 029 :: Choose the correct statement:

a) "The empathy map reproduces the information collected in the empathy mode";

b) "The map of empathy can be created only on the basis of video recordings of observations";

c) "The map of empathy is created on the basis of stories aimed at advertising the product."

:: 029 :: Which of the following are not on Henry Murray's list of psychological needs:

a) utilitarian and hedonistic;

b) primary and secondary needs;

c) positive and negative;

d) explicit and latent needs;

e) conscious and unconscious needs.

:: 030 :: The empathy map does not contain a block like…:

a) assessment of brand perception;

b) quotes and keywords;

c) actions and behaviour;

d) thoughts;

e) feelings and emotions.

:: 031 :: The image of a person based on the characteristics of different consumers is…:

a) a composite user;

b) a potential client;

c) a loyal consumer;

d) a character profile.

:: 032 :: Point-of-View is also called:

a) focusing mode;

b) empathy;

c) consumer perception of the brand;

d) generation of ideas.

:: 033 :: Development of new ideas involves the stage:

a) generation of ideas;

b) empathy;

c) prototyping;

d) testing.

:: 034 :: The formulation of the problem is preceded by a number of procedures:

a) all answers are correct;

b) systematization of the most accurate quotations of consumer statements;

c) selection of a model person

d) division into clusters.

:: 035 :: During the project, the design team works in three common spaces:

a) inspiration, generation of ideas, implementation;

b) immersion, modelling, substantiation;

c) focusing, generating ideas, prototyping, testing;

d) planning, organization, motivation, control.

:: 036 :: Generalization of conclusions on the basis of information collected in the mode of empathy, and creation of the concept which will be realized in the project, is carried out at a stage

a) focusing;

b) prototyping;

c) generation of ideas;

d) testing.

:: 037 :: When (what stage) is it important to generate the full range of opportunities, not limited to one “right” idea ?:

a) generation of ideas;

b) focusing;

c) prototyping;

d) testing.

:: 038 :: In order to generate ideas you should use:

a) bodystorming, smart cards, sketches;

b) systematization of secondary information;

c) SWOT analysis;

d) the results of competitive analysis.

:: 039 :: The method of generation using… involves the application of appropriate graphic material that synthesizes the past experience of formation and development of the type of product under consideration:

a) diagrams of ideas;

b) morphological analysis;

c) brainstorming;

d) synectics.

:: 040 :: Search for new product ideas based on the use of analogies from other spheres of life characters for…:

a) synectics;

b) diagrams of ideas;

c) brainstorming;

d) morphological analysis.

:: 041 :: Consistent sorting of possible combinations of different characteristics (for example, physical principles and technical solutions) is characteristic of…:

a) brainstorming;

b) synectics;

c) diagrams of ideas;

d) morphological analysis.

:: 042 :: A set of practices to facilitate innovation in the business world is typical for:

a) gamestorming;

b) research;

c) justification;

d) forecasting.

:: 043 :: The layout of the solution, which can be created from improvised materials, is…:

a) a prototype;

b) map of empathy;

c) consumer profile;

d) cargo.

:: 044 :: The process of iterative creation of layouts that helps to find the right solution is…:

a) prototyping;

b) search for information;

c) evaluation of alternatives;

d) focusing.

:: 045 :: Product evolution in design thinking involves:

a) consistent modelling of the minimum viable product, the creation of the main product and the production of a full-featured product;

b) passing all stages of the product life cycle;

c) the transformation of the product when changing environmental factors;

d) changes in consumer perception of the product.

:: 046 :: Product Evolution Canvas (PEC) allows to answer questions about the functionality of the product:

a) correct answers "b" and "c";

b) what the product is capable of and how it can be developed;

c) what can be expected in the future and what results can be expected;

d) there is no correct answer.

:: 047 :: The following is / are not subject to prototyping:

a) maps of empathy;

b) physical products;

c) sites, services;

d) software products, applications, interfaces;

e) experience.

:: 048 :: Modelling of physical objects can be done using:

a) Lego designers, 3D-printer, 3D-modeling programs;

b) maps of empathy, physical products, sites, services;

c) software products, applications, interfaces, experience.

:: 049 :: The method of presenting an idea in the form of a story, characterized by a higher level of customer orientation:

a) storytelling;

b) models made of cardboard and paper;

c) storyboard;

d) stop motion;

e) bodystorming.

:: 050 :: Method of creating a frame-by-frame description of the use of products and services:

a) storyboard;

b) storytelling;

c) models made of cardboard and paper;

d) stop motion;

e) bodystorming.

:: 051 :: Creating a video that will form an idea of the atmosphere and conditions of use of a product that has not yet been created:

a) stop motion;

b) storytelling;

c) models made of cardboard and paper;

d) storyboard;

e) bodystorming.

:: 052 :: Images of services using people:

a) bodystorming;

b) storytelling;

c) models made of cardboard and paper;

d) storyboard;

e) stop motion.

:: 053 :: Creating a Product Model, Product Evolution Canvas (PEC) is…:

a) both options are correct;

b) a tool for companies that create different products;

c) a tool suitable for brainstorming;

d) there is no correct answer.

:: 054 :: Product model creation, Product Evolution Canvas (PEC) consists of two components:

a) time constraints and three stages of product evolution;

b) time constraints and prototyping;

c) focusing and three stages of product evolution;

d) empathy and focus.

:: 055 :: Product evolution contains three stages, which do not include:

a) development of a map of empathy and creation of a consumer profile;

b) modelling of the minimum viable product;

c) creation of the main product that covers the main demands of potential consumers;

d) production of a full-featured product.

:: 056 :: Product evolution is…:

a) the process of creating a prototype of the finished product (service, service);

b) the process from creating a map of empathy to creating a prototype product;

c) potential processes of product transformation in the future;

d) stages of the product life cycle.

:: 057 :: Production of a full-featured product is aimed at:

a) creating an ideal solution to the consumer problem;

b) strengthening the competitiveness of the manufacturer;

c) attraction of capital investments;

d) elimination of existing products and introduction of substitute products on the market.

:: 058 :: Choose the correct statement:

a) "A project is a tool that transfers the concept from the idea to the reality";

b) "A project is an approved document";

c) "A project is an idea of a develpoer about the actual state of the market";

d) "A project is a tool that transfers an idea from the reality to the realm of imagination."

:: 059 :: Testing involves receiving feedback on the created prototypes. The feedback is designed to…:

a) understand the consumer and immerse themselves in the problem being processed;

b) assess the product development potential;

c) to make test sales of an innovative product in a new market.

:: 060 :: Advantages of testing include:

a) all answer options are correct;

b) saving money;

c) attracting the consumer, creating a situation that is as close as possible to the real one;

d) the possibility of improving the original idea.

:: 061 :: When testing, designers invite consumers to draw their thoughts in order to:

a) be more absorbed in the thoughts and feelings of the user;

b) get options for acceptable visualization;

c) simplify the prototyping process;

d) save money on testing prototypes.

:: 062 :: If there is a physical object (prototype), it is advisable for testing to:

a) enable the consumer to take it with him and use it;

b) prevent the prototype from reaching consumers;

c) give the consumer the opportunity to get acquainted with the sketches of the scrapers;

d) keep this prototype secret from consumers for as long as possible in order to protect the copyright of developers.

:: 063 :: "Create a prototype from the position that you are right, but test the prototype, knowing that you are wrong". This is …:

a) the key rule of testing.

b) the key rule of empathy;

c) the Pareto principle;

d) a requirement of international standards in the field of innovation.

:: 064 :: Getting the highest quality feedback during the testing process is:

a) what to strive for;

b) mandatory requirement;

c) not connected with a designer;

d) the main requirement of the project.

:: 065 :: Deciding in favour of a failed product can lead to the following consequences:

a) failure, regret about the impulsiveness of the decision, financial losses;

b) failure, regret for time spent, financial losses;

c) failure, regret about the impulsiveness of the decision, loss of market position;

d) increased competition, regret about the impulsiveness of the decision, financial losses.

:: 066 :: Financial losses due to the decision in favour of a failed product due to:

a) the production of a product that is not in demand on the market;

b) loss of market opportunities due to time spent on developing a new product;

c) strengthening the market position of major competitors;

d) the impulsiveness of the decision to choose a product option for the introduction of production.

:: 067 :: The FAN method involves evaluating an idea in the process of design thinking for:

a) all answers are correct;

b) opportunities to implement the idea;

c) attractiveness of the idea from the consumer's point of view;

d) uniqueness and originality.

:: 068 :: Tesco's method involves finding answers to questions for:

a) the initial assessment of the solution;

b) the final approval of the idea;

c) assessment of the attractiveness level of the idea from the consumer’s standpoint;

d) determination of the integrated indicator of product competitiveness.

:: 069 :: Group evaluation is based on the results of evaluation of alternatives by the team according to the same algorithm as the score evaluation of:

a) the initial assessment of the solution;

b) the final approval of the idea;

c) the attractiveness level of the idea from the consumer’s standpoint;

d) determination of the integrated indicator of product competitiveness.

:: 070 :: Cognitive barriers in the decision-making process include:

a) mistakes of thinking, stereotypes, patterns;

b) hypotheses, ideas, patterns;

c) errors in the assessment of financial and market risks;

d) excessive time spent at the stage of prototyping.

**ANSWER KEY**

| *No* | *Key* | *No* | *Key* | *No* | *Key* | *No* | *Key* |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | а | 21 | а | 41 | а | 61 | а |
| 2 | а | 22 | а | 42 | а | 62 | а |
| 3 | а | 23 | а | 43 | а | 63 | а |
| 4 | а | 24 | а | 44 | а | 64 | а |
| 5 | а | 25 | а | 45 | а | 65 | а |
| 6 | а | 26 | а | 46 | а | 66 | а |
| 7 | а | 27 | а | 47 | а | 67 | а |
| 8 | а | 28 | а | 48 | а | 68 | а |
| 9 | а | 29 | а | 49 | а | 69 | а |
| 10 | а | 30 | а | 50 | а | 70 | а |
| 11 | а | 31 | а | 51 | а |  |  |
| 12 | а | 32 | а | 52 | а |  |  |
| 13 | а | 33 | а | 53 | а |  |  |
| 14 | а | 34 | а | 54 | а |  |  |
| 15 | а | 35 | а | 55 | а |  |  |
| 16 | а | 36 | а | 56 | а |  |  |
| 17 | а | 37 | а | 57 | а |  |  |
| 18 | а | 38 | а | 58 | а |  |  |
| 19 | а | 39 | а | 59 | а |  |  |
| 20 | а | 40 | а | 60 | а |  |  |