

Description of Exit Examination

1. Communicative English

| Description of Exam Paper |
|---|
| Listening : Short conversation, Long conversation and Lecture. Grammar and Written expressions : Error identification, Sentence completion and Text completion. Reading : Comprehensive reading and Analytical reading. |
| Exam time : 2.00 hr. |
| Pass Mark : 60 % |

2. IT Literacy

| Description of Exam Paper |
|---|
| Basic Information Technology including Windows Operating System, Basic Internet, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and IT Ethics and Netiquettes |
| Exam time : 1.00 hr. |
| Pass Mark : 60 % |

3. Current Global Affairs

| Description of Exam Paper |
|---|
| Major Current Affairs including economic changes, domestic and international political situations, international relations, ASEAN Community, social problems, important developments in sciences and technology, and awareness in environmental problems. |
| Exam time : 1.00 hr. |
| Pass Mark : 60 % |

Description of Exit Examination

4. Knowledge and Application of Thai Language and Culture Programme

| Description of Exam Paper |
|--|
| Knowledge and use of Thai language, literary works, relationship between Thai language and culture, and compatible application of Thai language knowledge to the career. |

5. Knowledge and Application of English Programme

| Description of Exam Paper |
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| In order to encourage English Major students to effortlessly be able to face or deal with the world or to assess community's current situations and trends after their graduation, the main focus of this course is and evaluate the students' capability to apply their English language competency and performance they have learned including with their critical thinking skills. |

6. Knowledge and Application of Chemistry Programme (Natural Products Chemistry / Analytical Chemistry / Polymer Science and Technology)

| Description of Exam Paper |
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| Calculations and concepts in Stoichiometry, solution preparation, applications of chemistry to the real world problems, and chemical laboratory skills and techniques. |

Description of Exit Examination

7. Knowledge and Application of Bioscience Programme (Applied Microbiology / Biotechnology / Agricultural Science)

| Description of Exam Paper |
|--|
| The basic concepts of Genetics, Microbiology and Biochemistry 1.Application of plant tissue culture, plant breeding, economic crop to improve quality of plants for the future 2.Application of industrial microbiology and environmental biotechnology to apply or improve industrial processes or sustainable environment. 3.Application of bioprocess and gene technology to apply or improve industrial processes or sustainable environment. |

8. Knowledge and Application of Materials Engineering Programme

| Description of Exam Paper |
|---|
| Calculations and concepts in Stoichiometry, solution preparation, applications of chemistry to the real world problems, and chemical laboratory skills and techniques. 1.Properties and behaviors of materials 2.Material analysis and testing 3.Manufacturing processes of materials 4.Material selection and design |

9. Knowledge and Application of Economics Programme

| Description of Exam Paper |
|---|
| Apply knowledge from concepts and economic theories analysis of market equilibrium in microlevel ;analysis of relationship among macroeconomic variables; economic problems and macroeconomic policies; understandings of econometrics to confront empirical economic analysis; economic and social development; economic systems and structures; economic and other factors influencing economic development |

Description of Exit Examination

10. Knowledge and Application of Accounting Programme

| Description of Exam Paper |
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| Accounting Meaning and Objective of accounting; the benefit of accounting information; Basic Principles; concepts of accounting and accounting practices; accounting framework; accounting cycle; recording by double- entry accounting; the journal and posting to the ledger; accounting for merchandising and manufacturing company; reporting financial statement; International and Thailand Accounting Standard principles and procedures of accounting for assets and liabilities Managerial accounting and control in organization Special topics on contemporary cost approaches for decision making Inter- national and Thailand Accounting Standard principles and procedures about consignment goods, joint venture, installment sales, and leasing business; Accounting practice for consignment, joint venture, installment sales, leasing business; business liquidations; accounting for investment in associated and joint venture; accounting for combined corporate entities; preparation of consolidated financial statements; framework of auditing; auditing standard ; accounting professional ethics and business ethic. |

11. Knowledge and Application of Business Administration Programme

| Description of Exam Paper |
|--|
| The analysis and integration of significant business concepts and strategies which includes marketing management, production and operations management, financial management, organizational management, human resource management, and strategic management to solve business problems. |

12. Knowledge and Application of Tourism Management Programme

| Description of Exam Paper |
|---|
| Analysis, integration and application of comprehensive knowledge on tourism management and related businesses including sustainable tourism, tourism planning and development, tourism business management , tourism marketing , and professional ethics. |

Description of Exit Examination

13. Knowledge and Application of Hospitality Industry Management

| Description of Exam Paper |
|---|
| An analysis of comprehensive knowledge on hospitality business industry: the scope includes hospitality industry management; tourism and hospitality industry marketing; service operation and service psychology; hotel and facilities management; front office; housekeeping management; food and beverage management; MICE management; and accommodation management for leisure. |

14. Knowledge and Application of Business Administration Programme in Logistics and Supply Chain Management

| Description of Exam Paper |
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| A collaborative analysis of the significant concepts and strategies in the logistics and supply chain management, in which divided into 3 tracks as ; the track of logistics and supply chain management for manufacturing industries, the track of logistics and supply chain management for services industries and the track of logistics and supply chain management for cross border trade and international trade. |

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15. Knowledge and Application of Aviation Business Management Programme

| Description of Exam Paper |
|--|
| The analysis and integration of aviation business management concept, which includes introduction of aviation business management, an overview of marketing principles related to the aviation business and the use of various marketing strategies to achieve success in the industry, law, regulation, measures concerning in aviation industry issued by international aviation organizations. Understanding the personality in service business that required by the services job. |

16. Knowledge and Application of Aviation Service

| Description of Exam Paper |
|--|
| Have the knowledge and ability, skills and expertise in management of the entire aviation business including general safety on ground and in-flight operation, step by step of airline ground services procedures and airport rule and regularities, in-flight services managing system in aviation business: ticketing, reservation, check-in and boarding. |
| Pass Mark Core Course : 50 % Major required Course : 50 % Overall : 60 % |

17. Knowledge and Application of Aviation Logistics

| Description of Exam Paper |
|--|
| Have the knowledge and ability, skills and expertise in management of the entire aviation business including the principle of logistics and supply chain management in aviation business, business positioning of stakeholders in aviation industry, trends in tourism industry and air transportation, airport and airline development strategy, aviation stakeholder, and general safety on ground and in-flight operation. Also can be analyzed and integrated for creating the organization's vision to strategic plans, and planning operation. |

Description of Exit Examination

Pass Mark

Core Course : 50 %

Major required Course : 50 %

Overall : 60 %

18. Knowledge and Application of Aviation Operation

Description of Exam Paper

Have the knowledge and ability, skills and expertise in management of the entire aviation business including aviation history and related organization, the procedure in flight operation including licenses and basic human factor for working in flying career, properties of atmospheric layers, air pressure, type of wind, temperature, and atmospheric condition for flying, operating principles of engine, main components of engine and aircraft structure. Also including, the environment in flight operation; airport, cockpit and principles of flight operation, and an essential safety system for flying operation.

Pass Mark

Core Course : 50 %

Major required Course : 50 %

Overall : 60 %

19. Knowledge and Application of Information Technology

| Description of Exam Paper | |
|---|---|
| Subject (2019) | Scope of examination (2019) |
| Database Systems (Arjan Dr.Nikorn Rongbutsri) | <ul style="list-style-type: none"> •Database Concept •Database Design |
| Object – Oriented Design and Programming (Arjan Dr.Waralak Chongdarakul) | <ul style="list-style-type: none"> •Object – Oriented Design •Method and Encapsulation •Inheritance •Abstract Class and Java Interface •Polymorphism •Transform UML diagram to Java program |
| Information Technology Project Management (Arjan Dr.Santichai Wicha) | <ul style="list-style-type: none"> •Time •Budget and quality in project management |
| System Analysis and Design (Arjan Dr.Soontarin Nupap) | <ul style="list-style-type: none"> •Data Flow Diagram : Case Study •Outputs and Deliverables of SDLC |
| Exam time : 3.00 hr. | |
| Pass Mark : 60 % | |

20. Knowledge and Application of Computer Science

| Description of Exam Paper | |
|--|--|
| Subject (2019) | Scope of examination (2019) |
| Database Systems (Arjan Teanjit Sutthaluang) | <ul style="list-style-type: none"> •Database Concept •Database Design |
| Object – Oriented Programming (Arjan Dr.Khwunta Kirimasthong) | <ul style="list-style-type: none"> •Method and Encapsulation •Inheritance •Abstract Class and Java Interface •Polymorphism •Transform UML diagram to Java program |
| Object – Oriented Analysis and Design (Arjan Teanjit Sutthaluang) | <ul style="list-style-type: none"> •Object – Oriented Analysis and Modeling •Object – Oriented Design |
| Data Structures and Algorithms (Arjan Dr.Worasak Rueangsirarak) | <ul style="list-style-type: none"> •Array, Linked List, Stack, Queue, Tree •Big O Notation •Recursion •Sorting and Searching Algorithms |

Exam time : 3.00 hr.

Pass Mark : 60 %

21. Knowledge and Application of Software Engineering

| Description of Exam Paper | |
|---|--|
| Subject (2019) | Scope of examination (2019) |
| Enterprise Architecture (Arjan Vittayasak Rujivorakul) | <ul style="list-style-type: none">•Enterprise Business Process•Enterprise Application Systems•Enterprise Design Patterns•Emerging Technologies |
| Object – Oriented Design and Programming (Arjan Dr.Waralak Chongdarakul) | <ul style="list-style-type: none">•Object – Oriented Design•Method and Encapsulation•Inheritance•Abstract Class and Java Interface•Polymorphism•Transform UML diagram to Java Program |
| Database Systems (Arjan Dr.Nikorn Rongbutsri) | <ul style="list-style-type: none">•Database Concept•Database Design |
| Software Engineering (Arjan Pattariya Singpant) | <ul style="list-style-type: none">•Requirement Management & Specification•Process & Quality Assurance•Project Management•Configuration Management•Architecture•Case studies |
| Exam time : 3.00 hr. | |
| Pass Mark : 60 % | |

22. Knowledge and Application of Multimedia Technology and Animation

| Description of Exam Paper | |
|--|--|
| Subject (2019) | Scope of examination (2019) |
| Computer Graphic Design (Arjan Dr.Pruet Putjorn) | <ul style="list-style-type: none">•Visual Element•Brand Identity |
| Computer Game design and Programming (Arjan Narong Chaiwut) | <ul style="list-style-type: none">•Computer Game Design Terminology•Game Design Concept and Theory•Game Programming (JavaScript in Unity3D)•Unity3D terminology•Java Programming (Input/Output, Statement, Condition Statement, RepetitionStatement, Function) |
| Animation (Arjan Karn Soponronnarit) | <ul style="list-style-type: none">•12 principles of Animation•Animation pipeline Terminology• Terminology |
| Film and Video Production (Arjan Dr.Banphot Nobaew) | <ul style="list-style-type: none">•Develop screenplay and Storyboard•Film production•Production design•Film critic Architecture |
| Exam time : 3.00 hr. | |
| Pass Mark : 60 % | |

23. Knowledge and Application of Computer Engineering

| Description of Exam Paper | |
|--|--|
| Subject (2019) | Scope of examination (2019) |
| Computer Systems (Arjan Dr.Teeravisit Laohapensaeng) | <ul style="list-style-type: none">•Computer Programming |
| Database Systems (Arjan Teanjit Sutthaluang) | <ul style="list-style-type: none">•Database Concept•Database Design |
| Computer Networks (Arjan Dr.Mahamah Sebakor) | <ul style="list-style-type: none">•Protocal layers (TCP/IP and OSI)•Client–server model•Switching and routing•Wireless networks•Security : threats and firewalls |
| Digital Electronics (Arjan Dr.Suppakarn Chansareewittaya) | <ul style="list-style-type: none">•Flip Flop•Gates•Number System |
| Exam time : 3.00 hr. | |
| Pass Mark : 60 % | |

24. Knowledge and Application of Information and Communication Engineering

| Description of Exam Paper | |
|---|---|
| Subject (2019) | Scope of examination (2019) |
| Computer Networks (Arjan Dr.Chayapol Kamyod) | <ul style="list-style-type: none">•Protocal layers (TCP/IP and OSI)•Client–server model•Switching and routing•Wireless networks•Security : threats and firewalls |
| Telecommunication Systems (Arjan Dr.Sirichai Hemrungrote) | <ul style="list-style-type: none">•Infrastructure of telecommunication systems•Mobile Communication•Microwave Link Communication•Satellite Communication and Optical Communication |
| Database Systems (Arjan Teanjit Sutthaluang) | <ul style="list-style-type: none">•Database Concept•Database Design |
| DSP for Communication Systems (ASSISTANT PROFESSOR DR.Nattapol Aunsri) | <ul style="list-style-type: none">•Sampling•Digital filter design•Noise reduction•DSP Application |
| Exam time : 3.00 hr. | |
| Pass Mark : 60 % | |

Description of Exit Examination

25. Knowledge and Application of Food Technology Programme

| Description of Exam Paper |
|---|
| Integration and application of the knowledge in the areas of food science and technology i.e., Food processing and engineering, Quality assurance and product development, Food microbiology, Food chemistry and analysis as well as ethical issues in food industry to ensure food quality and safety production |

26. Knowledge and Application of Agricultural Produce and Packaging Programme

| Description of Exam Paper |
|---|
| Integration of principle, theory and application of postharvest technology and packaging consisting of postharvest physiology, postharvest handling, postharvest pathology, packaging, and quality system of agricultural produce as well as ethical issue. |

27. Knowledge and Application of Law Programme

| Description of Exam Paper |
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| Ability to apply Civil and Commercial code, Criminal code, Civil Procedure code, Criminal Procedure code, administrative laws, constitution and international laws |

Description of Exit Examination

28. Knowledge and Application of Cosmetic Science Programme

| Description of Exam Paper |
|---|
| Raw materials used, formulation, evaluation, innovation and application of cosmetics for skin care, hair care, color make-up and aroma and fragrance. |

29. Knowledge and Application of Beauty Technology Programme

| Description of Exam Paper |
|---|
| Implements, procedure, practice, application and code of conduct of body treatment, facial treatment, spa and spa management, make over and beauty marketing. |

30. Knowledge and Application of Applied Thai Traditional Medicine Programme

| Description of Exam Paper |
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| The integration and application of knowledge in Basic medical sciences; Anatomy, Physiology, Pathology, Biochemistry, Radiology, Clinical medicine; Symptomatology, Physical Examination, General Medicine, General Surgery, First Aid and Thai Traditional Medicine; Medicine, Pharmacy, Massage and Midwifery. |

31. Knowledge and Application of Physical Therapy Programme

| Description of Exam Paper |
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| Application of physical therapy in both a clinic and a community setting; musculoskeletal, neurological, cardiopulmonary, and pediatric systems. |

Description of Exit Examination

32. Knowledge and Application of Public Health (Public Health) Programme

| Description of Exam Paper |
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| Basic medical care in infectious, non-infectious, emerging diseases, mental disorders, and first aid; Application of disease investigation, control, prevention and immunization, and screening Programmes; Health education and behavioral science and health promotion in risk populations; Public health policy, administration, and management, and health economic; Community diagnosis, public health research, intervention, interpretation, monitoring, and evaluation; Application of occupational health and safety, and environmental management. |

33. Knowledge and Application of Public Health (Occupational Health and Safety) Programme

| Description of Exam Paper |
|---|
| Application of Occupational Health and Safety in workplace; toxicology, dose-response relationship, occupational medicine, ergonomics and work physiology, industrial hygiene, industrial hygiene sampling and analysis, industrial risk management, industrial health promotion and first aid, safety technology, industrial safety management, fire prevention and control. |

34. Knowledge and Application of Sports and Health Science Programme

| Description of Exam Paper |
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| Application of knowledge including sport physiology, sport training, sport nutrition, sport injury, sport biomechanics, sport management, and sport psychology to improve athletic performance and people's health with the right ethics approach. |

Description of Exit Examination

35. Knowledge and Application of Chinese Language and Culture Programme

| Description of Exam Paper |
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| 1. Sound System of Mandarin Chinese : Mandarin phonology and phonetics |
| 2. Chinese Morphology : Structure and application of Mandarin Chinese words |
| 3. Chinese Proverbs and Idioms : Ethics and life philosophy through Chinese folk tales, proper use of Chinese proverbs |
| 4. Mandarin Chinese Grammar : Sentence structures and their relationship; parts of speech; and structures, functions and meanings of phrases, clauses and sentences |
| 5. Applied Ancient Chinese : Classical Chinese lexical items, idioms and grammatical features explained in modern Chinese |
| 6. Chinese Culture and Traditions : Background of Chinese customs and culture and their influence on values, morals, ethics and lifestyles of Chinese people |
| 7. Evolution of Chinese Characters : The evolution of Chinese characters, from ancient to modern characters; types of Chinese characters |
| 8. Geography of China : Geography, natural resources, world heritage, transportation, groups of population and development of physical geography in other areas which have influence on the economic and social system of China. |
| 9. Chinese History : Chinese history and civilization from the ancient period to the pre-Opium War era; important figures and events in Chinese history; and the prosperity and fall of each dynasty |
| 10. Chinese Philosophy : Chinese philosophy, its concepts and teachings; renowned schools of philosophers; vocabulary, idioms and grammatical features in classical Chinese philosophy texts |

Description of Exit Examination

Teaching Profession

1. Principles of Education and Teaching Profession : Concepts, education philosophy, and Thai education management; importance of the teaching profession; teachers' roles, duties, responsibilities, and participation in the development of the teaching profession characteristics of a good teacher; creating good attitudes towards the teaching profession making professional progress, teachers' potential and competence; academic leadership; standard criteria and ethics of the teaching profession; Thai and international professional organisations of teachers; and laws related to education
2. Educational psychology : Meaning, significance and history of educational psychology; theories of educational psychology; human development; personality; motivation; idiosyncratic mental images; learning and association of knowledge; reasoning and problem-solving power; meta-intelligence; social education; new insights into educational psychology; and principles of educational psychology basic to learner-centred learning
3. Teaching-Learning Process : Meaning and significance of learning-teaching relationship; theories of learning and teaching development of learning and teaching styles designing and implementing learning experiences; integration of multiple intelligences; pedagogy and its techniques; creation, use and development of innovative learning media; arrangement of learner-centred learning; and learning assessment
4. Guidance and Counseling Psychology : Basic principles of guidance and counseling; meaning of guidance and counseling; history, philosophy, beliefs and importance of guidance and counseling; types and characteristics of guidance and counseling; provision of in-school guidance and counseling; roles and ethics of guidance and counseling personnel.
5. Education and Classroom Research : Principles, theories, and types of education; research; research questions; design and techniques; application of statistics; data collection and analysis; classroom research and its written presentation; research and review of literature for learning process management; process of using research for problem solution; and proposal of a research project.

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6. Classroom and School Management : Meaning, scope, significance and conceptual frameworks of classroom management; theories and principles of management; educational leadership and skills of methodical thinking; understanding organisation culture; communication for mutual benefit and intra-organisational relations; teamwork; classroom management; using the environment as a resource for learning; implementation of academic, vocational and community development projects; organisation of information technology for educational management and assurance.
7. Principles of Chinese Teaching : Principles of teaching to develop learners' listening, speaking, reading and writing skills; appropriate application of these skills to their teachings; using techniques and strategies for learning management; evaluation, improvement and development for Chinese-learning management
8. Curriculum Development : Philosophy, concepts and theories of education; history of education management in Thailand visions and education plans of Thailand; components and characteristics of curricula; theories and procedure for curricular development and assessment; curricular principles, goals and structures; curricular standards and grade ranges curricular management and development of institutional curricula; and current problems and trends in curricular development.
9. Analysis and Application of Chinese Teaching Materials : Analysis of structure, content and presentation of Chinese-language lessons and application of its outcomes.

Description of Exit Examination

36. Knowledge and Application of Business Chinese Programme

| Description of Exam Paper |
|--|
| 1. Chinese Grammar : Sentence structures and their relationship, parts of speech, synonym, etc. |
| 2. Introduction to China : China's geography, demography, governmental system, economy and social science, science and technology, education, religions and culture, etc. |
| 3. Chinese Computer : Basic knowledge of using Chinese computer as a documentation and information-searching tool |
| 4. Chinese Culture : Chinese Character, Traditional Chinese festivals, Chinese food and drink, Painting, Traditional medicine, etc. |
| 5. Applied Classical Chinese : Classical Chinese lexical items, idioms and grammatical features explained in modern Chinese |
| 6. Chinese Literature and Chinese Philosophy : Ancient to contemporary Chinese literature, literary works of each dynasty, philosophy, system of thought and teachings of famous philosophers and philosophy schools |
| 7. Chinese History : Important figures and events in Chinese history; and the prosperity and fall of each dynasty |
| 8. China and Her International Relations : Role of China in the global community, commercial and economic relations between China and other countries, especially Thailand, international organizations of which China is a member |
| 9. Chinese Listening from Audio-Visual Aids : Chinese lexical items, idioms in different types of audiovisual media |
| 10. Business Chinese Reading : Chinese lexical items, idioms in business-related texts |
| 11. Business Chinese Writing : Terms and expressions used in business operation, completing application forms, memorandum format and writing different types of business correspondence |
| 12. Chinese Economy: Modern Chinese economy, the production aspect in different industries, local marketing and finance that influence China's international economy and trade |
| 13. Business Chinese Translation: Translation of business and commercial news, business document and different types of business letters from Chinese into Thai and vice versa |
| 14. Chinese for Public Relations : Basic knowledge of public-relations |

Description of Exit Examination

37. Knowledge and Application of Nursing Sciences

| Description of Exam Paper |
|--|
| The integration and application of knowledge in nursing sciences; Clinical sign and symptom, physical examination, investigation, medical and surgery treatment and nursing care in midwifery, maternity, pediatrics, adult, elderly, and psychiatry; Health System; Community Diagnosis and Community Management; Primary Medical Care; Professional Laws and Code of Ethics and Laws related Profession. |

38. Knowledge and Application of International Development

| Description of Exam Paper |
|---|
| This exam require understanding on different development approaches and perspectives towards current global development agenda as well as debates on development issue in Southeast Asia. Examinee should present their argumentation in a logical manner with ability to critically apply appropriate social concepts from different courses in International Development Program. Examinee is expected to provide creative ideas for solution to response to social problems. |

39. Knowledge and Application of Science (Medical Science)

| Description of Exam Paper |
|---|
| Nutrition and energy homeostasis, biology of inflammation, chronic diseases and ageing process, advance techniques for microbial infection diagnosis, superbugs, vaccine development, advance and applied immunology, neuroscience and neurodegenerative disease, psychiatric disease and behavioral sciences, oncological genetics, forensic science and technology, and current bioinformatics. |