The Management University of Africa

Sponsored by the Kenya Institute of Management

UNDERGRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF BACHELOR OF ARTS IN DEVELOPMENT STUDIES

BDS 201: TECHNOLOGY AND DEVELOPMENT

DATE: 26TH JULY 2022

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. **Write all your answers in the Examination answer booklet provided**

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

A 72 year-old male with occasional chest pain and no prior medical history was referred by aprimary care provider to a cardiologist, who recommended cardiac catheterization. Reticentaboutconventional medical care, the patient decided to seek alternative care instead. Doing soraised the prospect that a potentially life-threatening coronary condition might not be evaluatedand treated as warranted.

Instead, the patient's nephew—a PhD in psychology—brought him to an integrative medicinecenter, where the roles and value of both conventional and complementary and alternative medicine (CAM) treatments are recognized.Evaluation by an internist suggested the chest pain had a low prior probability of being cardiac, and was clearly not unstable. A nuclear stress test was proposed to the patient as a less invasivealternative to cardiac catheterization, and the patient accepted the recommendation. The cardiologistwas contacted, the case discussed, and consensus achieved. The nuclear stress test wasnormal, and the patient was successfully treated for noncardiac chest pain. His cardiac risk factorswere evaluated and managed with lifestyle, and he remained under the care of his primary care provider, withcardiology follow-up as warranted.

The patient and his nephew subsequently acknowledged that had the option of integrative carenotbeen available, the patient would likely have abandoned conventional care for CAM, even atthe risk of his life. The case, of course, would be that much more compelling had the chest painproven to be of cardiac origin, but it might well have, and the next case certainly could.

Required:

a) Using the patient in this case study as an example, explain THREE challenges faced by patients seeking both conventional care and Complimentary Alternative Medicine (CAM). **(6 Marks)**

b) If the patient above had a health insurance, what would be some of the challenges faced b his insurer in relation to the case study provided? Argue for any ripple effect of such challenges on the healthcare system. **(4 Marks)**

c) A key pillar of development is a holistic healthcare system. Over the years there have been arguments for and against the use of traditional African medicine in healthcare; a process known as complementary and alternative medicine (CAM). Briefly describe **SIX** factors that need to be considered when making efforts to integrate traditional African medicine into the western medical treatment provided by several points of care across Kenya today. **(12 Marks)**

d) In your opinion, what would be the ultimate expression of integrative healthcare? **(3 Marks)**

QUESTION TWO

The **'Technocratic Concept of Progresses'**, developed in the 19th century in the USAemphasized on sufficiency of scientific and technological innovation as the basis for general human progress. The concept says that if we can ensure the advance of science-based technologies, the rest will take care of itself. The 'rest' refers to nothing less than a corresponding degree of improvement in the social, political, and cultural conditions of life.

a) Explain why this concept was referred to as technocratic? **(1 Mark)**

b) Having been formulated in the 19th century and considering several changes that have occurred since then, is this concept relevant for today's development? Support your arguments with facts and examples where possible. **(2 Marks)**

c) Considering the key pillars of Kenya's vision 2030 (Economic, Social and Political) and their respective sectors, exhaustively discuss the relevance of the **"Technocratic Concept of Progress"**, to the growth and development in Kenya. **(12 Marks)**

QUESTION THREE

Unequal access to all levels of education is a basic characteristic of the educational system in Kenya. Children whose parents are not wealthy contend with inferior education thereby remaining disadvantaged by the education system.

a) Discuss the potential impacts of this inequality on Kenya's socio-economic development **(6 Marks)**

b) Discuss how Science, Technology and Innovation (ST&I) can be applied to eradicate or mitigate the impacts of inequality identified above. **(6 Marks)**

c) What do you understand by the phrase "Green technology"? List any FOUR major types of Green Technology **(3 Marks)**

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QUESTION FOUR

China's rapid economic inroads into Africa and the growth in its volume of trade with the continent from $20 billion in 2001 to $120 billion in 2011, has attracted a lot of attention within Africa and among its traditional trading partners in the West. This is partly due to the contribution of Chinese investments, trade and partnership cooperation to Africa's economic growth and its implications for Africa's relations with the West and other emerging powers. An open debate exists as to whether the Sino-Africa relationship is for development or a form of neo-colonialism. Discuss the value, intent and potential impact of this relationship with specific reference to:

i. Why has China become Africa's preferred partner **(3 Marks)**

ii. The values of China's development experience for Africa **(3 Marks)**

iii. Complementarities of Chinese investment to African needs **(3 Marks)**

iv. Chinese strategies for promoting investments in Africa **(3 Marks)**

v. Areas of tensions in China-Africa relations **(3 Marks)**

QUESTION FIVE

a) Briefly explain your understanding of the following sub disciplines of food science:

i. Food microbiology **(1 Mark)**

ii. Food safety **(1 Mark)**

iii. Food physics **(1 Mark)**

iv. Food chemistry **(1 Mark)**

v. Sensory analysis **(1 Mark)**

b) One of the challenges facing developing economies like Kenya is rampant food insecurity. However, one of the Millennium Development Goals is to achieve food security and Kenyans have been encouraged to promote the application of Science, Technology and Innovation (ST&I) in food production and processing as a key promise in realizing food security.

i. By giving examples where applicable, outline how ST&I have been applied in improving food production, processing and agriculture in Kenya. **(5 Marks).**

ii. By giving examples where applicable, outline any negative effects that have been met by Kenya in her efforts to utilize ST&I in food production, processing and agriculture **(5 Marks).**

QUESTION SIX

a) Science, Technology and Innovation (ST&I) can have both positive and negative impacts on socio-economic development of the society. Discuss such the impacts of ST&I on Kenya's socio-economic development with specific reference to the following Millennium Development Goals (MDGs) issues:

i. Access to education **(1 Mark)**

ii. Environment **(2 Marks)**

iii. Poverty reduction **(2 Marks)**

b) The current problem of the energy system is that human utilizes energy which leads to the problem of global warming. Suggest two ways in which we can reduce emission of Carbon dioxide (CO2) into the atmosphere. What the technologies that can be used to achieve this?

i. How to reduce CO2 emission: **(2 Marks)**

ii. Technologies used: **(2 Marks)**

c) Explain THREE factors that drive the growth of Green Technology **(6 Marks)**