JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE BACHELOR OF INFORMATION COMMUNICATION TECHNOLOGY

3RD YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR

COURSE CODE: ICT 3311

COURSE TITLE: ICT PROJECT MANAGEMENT

EXAM VENUE: MAIN CAMPUS STREAM: ICT

DATE: EXAM SESSION:

TIME: 2.00 HOURS

INSTRUCTIONS:

1. **Answer Question 1 (Compulsory) and ANY other three questions**
2. **Candidates are advised not to write on the question paper**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

Question One: Case Study

The city of Salchester, population 275,000, with an annual budget of £280 million and employing 15,000 staff, provides services under the main departments of education, environment and waste, social care, roads and transport, business, community, and leisure and tourism. The Council is controlled by 55 part-time elected members, but is actually run by full-time professional managers, the Chief Executive, supported by directors of each department, and the Finance Director, who has fiduciary responsibility for the management of all financial dealings, such as collection of rates and monies owed to the council, agreeing and managing departmental budgets, etc. Unlike commercial organizations, its income is strictly controlled by legal constraints, and accountability for expenditure is very important, and transparent to both council members and citizens of Salchester.

The work of all council departments is supported by a central IT function, whose manager reports to the Finance Director. More than 150 staff carry out a full range of functions - systems analysis and design, programming, help-desk support, operations, and other specialist roles. Development projects include the maintenance and enhancement of the major information systems that support the City's departments, including those based on the databases holding information about every property in the city, all citizens entitled to vote, every child of school age, all individuals requiring housing, social care and so on. Given the size and complexity of these systems, the requirement for strict resource accountability and the way in which local government finances are allocated on an annual basis, the development staff currently use an approach based on SSADM with a waterfall lifecycle for development projects.

IT services are based around the IBM System z9™ Business Class (z9 BC) which provides an advanced combination of reliability, availability, security, scalability and virtualization, and is designed specifically as a midrange mainframe. It runs Informix database systems as the main engine for its applications, although the IT Manager is concerned that since IBM acquired Informix for $1 billion in 2001, more than half the Informix base of 100,000 customers have moved over to Oracle. There are more than 3,000 desk-top machines linked into the Council's Intranet, running corporate applications developed in the IT function, some general outsourced applications (e.g. payroll), as well as desk-top applications often using MS Office™, many of which are end-user generated.

The council is committed to using the internet to provide greater access to council information to the public, as well as raising service quality and achieving cost reductions, by allowing on-line payments of council tax, parking penalties, etc, and allowing a wide range of other services such as online admission applications to schools, applying for adoption, reporting abandoned vehicles, etc. This e-government initiative will require the creation of a range of new information systems development projects. The IT Manager is aware that the existing staff do not possess all the skills and experience required for many of these, and has gained approval from the Chief Executive to create 15 new positions within the IT function, to be primarily focused on the new online applications, although opportunities for existing staff to acquire new skills will also be advertised within the IT function.

Question One is compulsory

a) Identify potential problems he might have to deal with in absorbing the new staff into the existing IT function, and discuss how he could try to minimize the impact of these.

(8 marks)

b) McCall identified 11 quality criteria in his hierarchical model of software quality. Identify **four** which you think will be important to the new online applications, justifying your choices.

(8 marks)

c) Discuss how the non-financial benefits of new applications at the Council could be identified and delivered.

(8 marks)

d) Explain how control of requested changes to existing systems could be effectively managed.

(6 marks)

Question Two

Activity	Duration (days)	Depends on
A	7	-
B	6	A
C	9	A
D	4	B
E	7	B,C
F	8	D
G	4	D, E
H	7	D, E
I	8	G, H
J	4	G
K	3	I

Explain which activities in the project plan the project manager will want to monitor closely as the project progresses.

(8 marks)

(b) How could the project manager use non-zero "float" associated with activities in the plan?

(6 marks)

(c) Explain why Configuration Management is an important aspect of project management, noting particularly change control.

(6 marks)

Question Two

Many larger organizations are considering the establishment of a central information technology project group.

a) Describe the benefits to the business of doing this

(8 marks)

b) Discuss how the effectiveness of such a group may be enhanced.

(12 marks)

Question Three

a) Discuss how the influence of senior management on projects should be gained, sustained and communicated to the rest of the organization.

(10 marks)

b) Discuss a way through which Information Economics (Parker & Benson) extends NPV to take account of intangibles

(10 marks)

Question Four

a) Explain the risks associated with levelling resources, compressing or crashing projects, and imposed durations or "catch-up" as the project is being implemented**.**

(10 marks)

b) Define a project. What are the five characteristics that help differentiate projects from other functions carried in the daily operations of the organization?

(10 marks)

Question Five

a) Describe two rigorous approaches to Risk Management in the context of systems development project management, and critically evaluate these.

(8 marks)

b) Discuss how systems development professionals can be motivated in the workplace, relating this to career planning and improving their skills and abilities.

(12 marks)