



# FACULTY OF ENGINEERING AND BUILT ENVIRONMENT

Supplementary 2019

## DEPARTMENT OF QUALITY AND OPERATIONS MANAGEMENT

<b><u>PROGRAMME</u></b>	BTECH: QUALITY
<b><u>MODULE</u></b>	QUALITY MANAGEMENT SYSTEMS III
<b><u>CODE</u></b>	QMY44-1
<b><u>DATE</u></b>	18 July 2019
<b><u>DURATION</u></b>	3 Hours
<b><u>TIME</u></b>	08h00 – 11h00
<b><u>TOTAL MARKS</u></b>	100

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<b><u>EXAMINER</u></b>	DR N SUKDEO
<b><u>INTERNAL MODERATOR</u></b>	MR NS MADONSELA
<b><u>EXTERNAL MODERATOR</u></b>	PROF KR RAMDASS
<b><u>NUMBER OF PAGES</u></b>	5 PAGES including cover page

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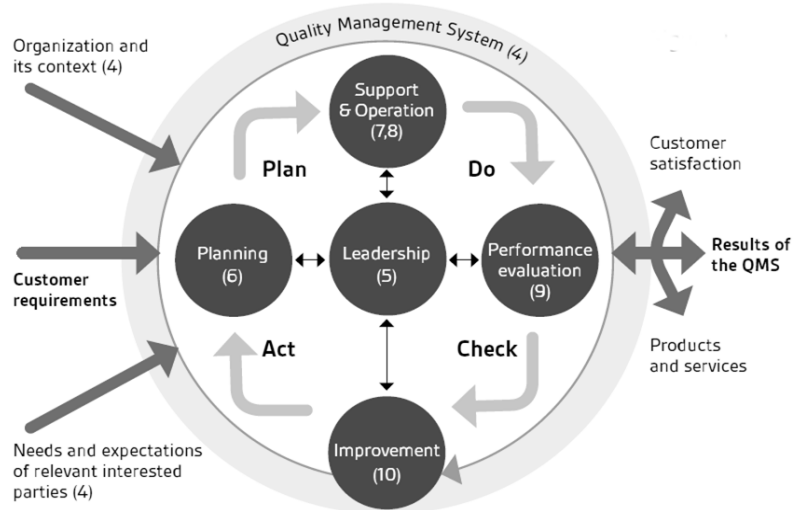
### **INSTRUCTIONS TO CANDIDATES:**

- Please answer all questions.
- Question papers must not be handed in.
- This is a closed book assessment.
- Read the questions carefully and answer only what is asked.
- Number your answers clearly.
- Write neatly and legibly.
- Structure your answers by using appropriate headings and sub-headings.
- Clauses of ISO 9001:2015 attached.
- The general University of Johannesburg policies, procedures and rules pertaining to written exam apply.

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## QUESTION ONE

- 1.1 Discuss the seven quality management principles. [14]
- 1.2 What are the barriers to implementing a QMS. [8]
- 1.3 Consider Figure 1 and deduce the potential actions to be taken with the process approach. [7]



**FIGURE 1**

- 1.5 Discuss the application of the process approach model in Figure 1. [5]
  - 1.6 Explain the four elements of the PDCA cycle. [4]
- [38]**

## QUESTION TWO

- 2.1 Elaborate on 5 benefits of an environmental management system [5]
  - 2.2 Briefly discuss the following aspects of ISO 14001:2015 entail;
    - 2.2.1 4.3 Determining the scope of the environmental management system [2]
    - 2.2.2 5.2 Environmental policy [2]
    - 2.2.3 6.1.3 Compliance obligations [2]
    - 2.2.4 7.3 Awareness [2]
    - 2.2.5 8.2 Emergency preparedness and response [2]
  - 2.3 Why should management systems be integrated? [11]
  - 2.4 Explain the benefits of an integrated management system. [10]
- [36]**

### QUESTION THREE

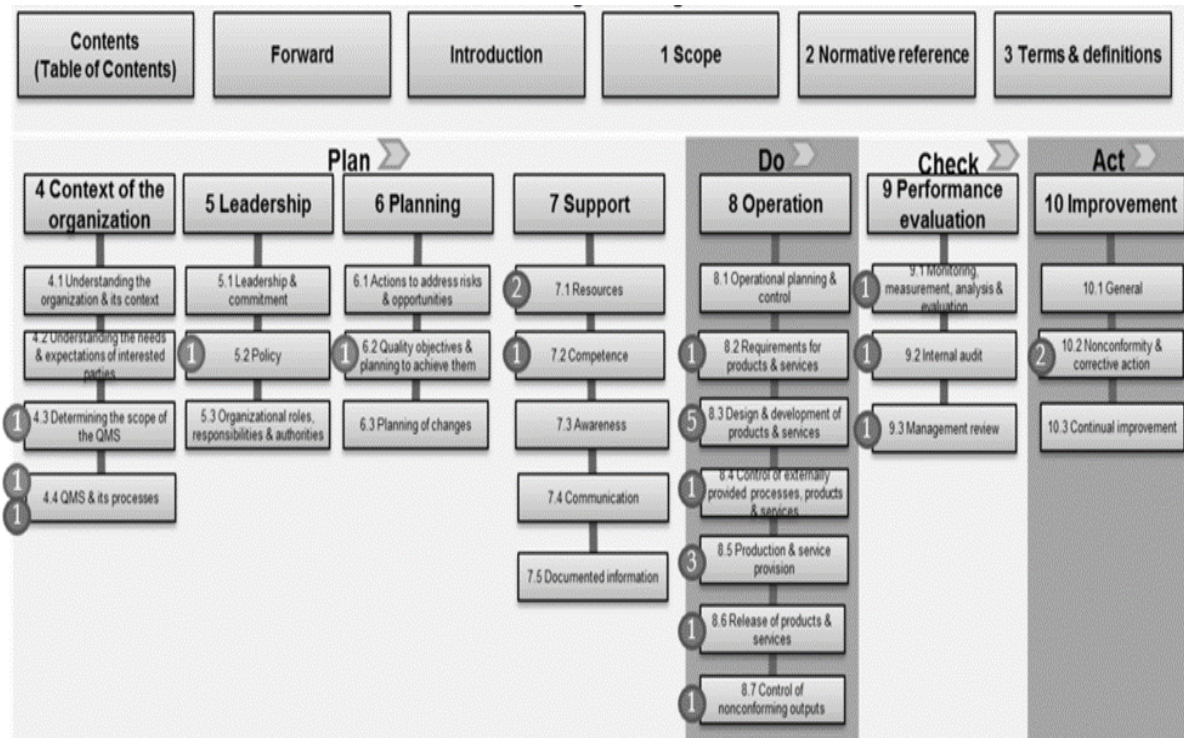


*Figure 2*

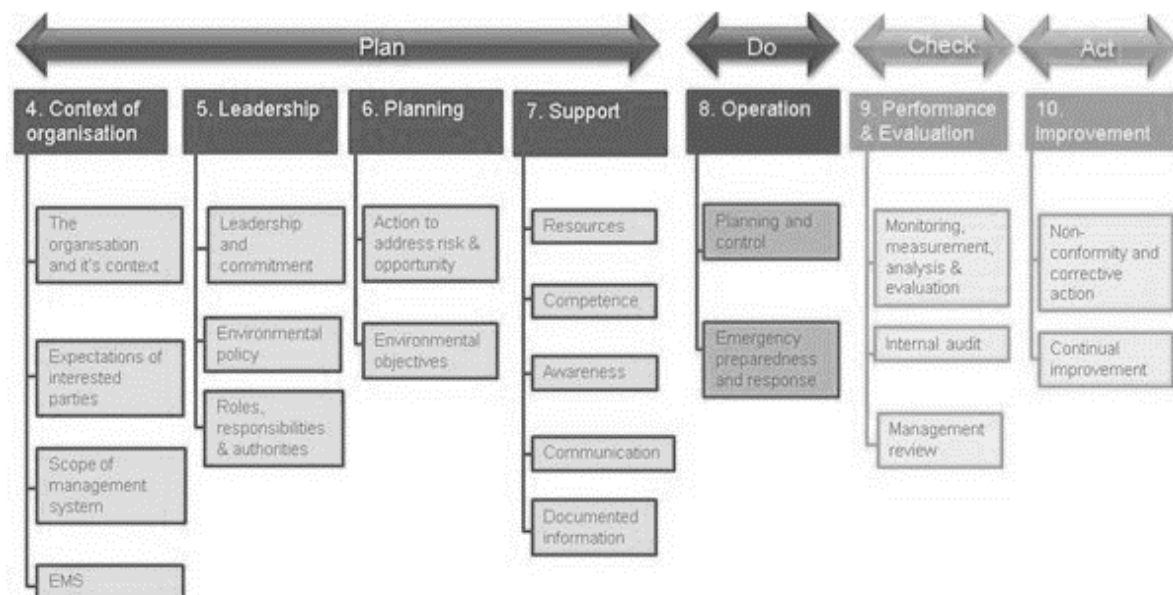
- 3.1 Elaborate on each of the principles indicated in Figure 2. [11]
- 3.2 Explain the benefits of ISO 31000. [5]
- 3.3 Identify **any five** major clauses of ISO 9001:2015. Stipulate how these clauses have been implemented in your organisation. [10]
- [26]

**Total = 100 marks**

## Summary of ISO 9001:2015 Clauses



## Summary of ISO 14001:2015 Clauses



## Summary of ISO OHSAS Clauses

PLAN				DO	CHECK	ACT
4. Context of the organization	5. Leadership and worker participation	6. Planning	7. Support	8. Operation	9. Performance evaluation	10. Improvement
4.1 Understanding the organization and its context	5.1 Leadership and commitment	6.1 Actions to address risks and opportunities	7.1 Resources	8.1 Operational planning and control	9.1 Monitoring, measurement, analysis and performance evaluation	10.1 General
4.2 Understanding the needs and expectations of workers and other interested parties	5.2 OH&S Policy	6.2 OH&S objectives and planning to achieve them	7.2 Competence	8.2 Emergency preparedness and response	9.2 Internal audit	10.2 Incident, Nonconformity and corrective action
4.3 Determining the scope of the OH&S management system	5.3 Organizational roles, responsibilities and authorities		7.3 Awareness		9.3 Management review	10.3 Continual improvement
4.4 OH&S management system	5.4 Consultation and participation of workers		7.4 Communication			
			7.5 Documented information			