



**NATIONAL QUALIFICATION**

**13UY0166-6**

**IT SOLUTIONS SPECIALIST**

**LEVEL 6**

**REVISION NO:**

**VOCATIONAL QUALIFICATION AUTHORITY**

**Ankara, 2013**

## PREFACE

This reference guide, namely **IT Solutions Specialist (Level 6)** National Qualification was prepared in accordance with the provisions of the “Regulation on Vocational Qualifications, Testing and Certification” issued pursuant to the Vocational Qualifications Authority (VQA) Law no 5544.

The draft qualification was drawn up by **TUBIDER- Association of Informatics Sector** appointed upon the cooperation protocol signed on **05.12.2011**. After assessing opinions of the relevant organizations and institutions, the draft has been amended accordingly. The final draft was evaluated by the VQA’s **Informatics Technologies Sector Committee**, which deemed it suitable. It was approved by the Board of Directors of the VQA through its decision no **2013/45** of **12.06.2013** and decided to be placed within the National Qualification Framework (NQF).

We would like to extend our gratitude to all people, organizations and institutions that have expressed their opinions and contributed to the preparation, examination and verification processes of the qualification. We would like to offer it to the service of all likely beneficiaries.

Vocational Qualification Authority

## INTRODUCTION

The key criteria referred to in the national qualification preparation process, the relevant sector committees' review and the VQA's Board of Directors' approval processes are set in the Regulation on Vocational Qualification, Testing and Certification.

National qualification is defined by,

- a) Name and level of the qualification,
- b) Aim and rationale of the qualification,
- c) Vocational standard, Vocational standard units or Qualification Items which form the basis for the qualification,
- d) Training and experience criteria (form, content, duration etc) necessary for the qualification,
- e) Learning outcomes necessary to acquire the qualification,
- f) Assessment procedures and principles to be applicable to in the acquisition of the qualification, minimum testing materials and assessor criteria necessary for assessment,
- g) Validity of the qualification certificate, renewal conditions, supervision of the certificate holder if deemed necessary,
- h) Institution developing the qualification and Sector Committee verifying the Qualification.

National qualifications are built according to the relevant national Vocational standard if there is one or to the relevant international Vocational standard if there is none at the national level.

National qualifications are set in cooperation with the below bodies

- Formal and non-formal education and training institutions,
- Authorized Certification Bodies,
- Institutions having pre-applied for certification to the authority,
- Institutions having drawn up national Vocational standard,
- Vocational organizations.

13UY0166-6 IT SOLUTIONS SPECIALIST NATIONAL QUALIFICATION		
1	<b>NAME OF QUALIFICATION</b>	IT Solutions Specialist
2	<b>REFERENCE CODE</b>	13UY0166-6
3	<b>LEVEL</b>	6
4	<b>INTERNATIONAL CLASSIFICATION CODE</b>	ISCO 08: 2511
5	<b>TYPE</b>	-
6	<b>CREDIT VALUE</b>	-
7	<b>A) DATE OF PUBLICATION</b>	12/06/2013
	<b>B) REVISION NO</b>	
	<b>C) REVISION DATE</b>	-
8	<b>AIM</b>	This Qualification has been prepared in order to identify, measure and document the skills and competencies, which IT Solutions Specialist should have.
9	<b>VOCATIONAL STANDARD(S) FORMING THE BASIS FOR THE QUALIFICATION</b>	
IT Solutions Specialist (Level 6) National Vocational Standard 13UMS0290-6		
10	<b>REQUIREMENTS TO TAKE QUALIFICATION TEST</b>	
-		
11	<b>STRUCTURE OF QUALIFICATION</b>	
<b>11-a) Compulsory Units</b>		
13UY0166-6/A1 Occupational Health and Safety, Quality, Work Organization, Environmental Protection and Vocational Development		
13UY0166-6/A2 Sales Techniques and Principles of IT Solutions		
13UY0166-6/A3 IT Solutions Planning and Design		
13UY0166-6/A4 Forming IT Solutions and Executing Post-Solution Activities		
<b>11-b) Elective Units</b>		
-		
<b>11-c) Alternatives for Grouping of Units and Additional Learning Outcomes</b>		
-		
12	<b>ASSESSMENT</b>	
The candidates have to succeed in all A Group mandatory Qualification Items for obtaining the National Vocational Qualification. Success assessment is carried out according to the criteria stated in the assessment & evaluation department of each item.		
The tests may be performed consecutively or independent of each other. The test questions shall be designed to assess all learning outcomes projected to be assessed.		
It is necessary to be successful at all exams, which are needed to obtain the Qualification certificate within one year. In case such term exceeds 1 year, the participant has to go under the other tests which s/he has succeeded, again.		

<b>13</b>	<b>VALIDITY OF CERTIFICATE</b>	The validity period of the qualification certificate is 4 years beginning from date of issue.
<b>14</b>	<b>FREQUENCY OF SURVEILLANCE</b>	During validity period of certificate the holders shall submit their Vocational competency success report at least once and self-employed holders shall submit service statement form.
<b>15</b>	<b>ASSESSMENT METHODS TO BE FOLLOWED IN RENEWAL OF EXPIRED CERTIFICATES</b>	For certificate renewal, an exam will be applied, in which questions of first certificate and mainly questions relating technological developments will be asked.
<b>16</b>	<b>QUALIFICATION DEVELOPMENT INSTITUTION(S)</b>	TÜBİDER Informatics Sector Association
<b>17</b>	<b>SECTOR COMMITTEE TO VERIFY QUALIFICATION</b>	VQA Informatics Technologies sector Committee
<b>18</b>	<b>DATE AND NUMBER OF APPROVAL BY VQA BOARD OF DIRECTORS</b>	12/06/2013 – 2013/45

13UY0166-6/A1 OCCUPATIONAL HEALTH AND SAFETY, QUALITY, WORK ORGANIZATION, ENVIRONMENTAL PROTECTION AND VOCATIONAL DEVELOPMENT QUALIFICATION ITEM		
1	NAME OF QUALIFICATION ITEM	Occupational Health and Safety, Quality, Work Organization, Environmental Protection and Vocational Development
2	REFERENCE CODE	13UY0166-6/A1
3	LEVEL	6
4	CREDIT VALUE	-
5	A) DATE OF PUBLICATION	12/06/2013
	B) REVISION NO	00
	C) REVISION DATE	-
6	VOCATIONAL STANDARD(S) FORMING THE BASIS FOR THE QUALIFICATION	
IT Solutions Specialist (Level 6) National Vocational Standard 13UMS0290-6		
7	LEARNING OUTCOMES	
<p><b>Learning Outcome 1: Explains OHS precautions.</b></p> <p><b>Performance Criteria:</b></p> <ol style="list-style-type: none"> <li>1.1. Explains measures to be taken against the risks and dangerous situations.</li> <li>1.2. Explains OHS measures employees must comply with</li> <li>1.3. Explains OHS measures needed to comply within the work area</li> <li>1.4. Describes measures to be implemented in case of emergency.</li> </ol> <p><b>Learning Outcome 2: Explain the environmental protection measures.</b></p> <p><b>Performance Criteria:</b></p> <ol style="list-style-type: none"> <li>2.1. Explains how to evaluate the environmental hazards associated with the processes.</li> <li>2.2. Explains how to use environmental protection measures.</li> <li>2.3. Explains how to ensure the efficiency of enterprise resources.</li> </ol> <p><b>Learning Outcome 3: Defines the quality practices.</b></p> <p><b>Performance Criteria:</b></p> <ol style="list-style-type: none"> <li>3.1. Describes how to carry out the audits of conformity with quality and standards for the works performed.</li> <li>3.2. Lists necessities be done to improve the processes, prevents detected errors and faults</li> </ol> <p><b>Learning Outcome 4: Explains how to make the work organization</b></p> <p><b>Performance Criteria:</b></p> <ol style="list-style-type: none"> <li>4.1. Explains how to assess work orders.</li> <li>4.2. Queues point to be considered while planning work.</li> <li>4.3. Explains matters to be taken into consideration by the staff in orientation.</li> <li>4.4. Explains how the work area will be organized properly.</li> <li>4.5. 4.5 Explains how to keep forms and record of the works performed.</li> <li>4.6. Explains how to perform reporting and information activities.</li> <li>4.7. Lists in what situations to communicate with other vocational staff.</li> <li>4.8. Lists the matters to be considered while digital archiving.</li> </ol>		

**Learning Outcome 5: Defines Vocational development activities to be carried out****Performance Criteria:**

- 5.1. Explains what kind of works are to be done on individual Vocational development
- 5.2. Explains how to ensure staff receives training.
- 5.3. Explains matters to be taken into consideration while participating in job start training of the personnel

<b>8</b>	<b>ASSESSMENT</b>	
<b>8 a) Theoretical Examination</b>		
<p><b>T1:</b> Test exam will be applied for assessment and evaluation. In the exam, questions as choice from multiple to single-multiple to multiple and true-false type questions can be asked. The examination may be done in writing or with CBT / IBT system in computer. If IBT system is used, questions as the right-wrong list, mapping and sequencing can be asked. The participants shall be asked 20 questions at least in the exam with equal points, participants must give at least 70% correct answers. Questions shall as to cover learning outcomes and "Information" control list in the Annex 13UY0166-6/A1-2. Average period of time per question shall be estimated as 1-1.5 minutes.</p>		
<b>8 b) Performance based Examination</b>		
No performance-based examination is stipulated.		
<b>8 c) Other Assessment related conditions</b>		
It is necessary to be successful at all exams, which are needed to obtain the Qualification certificate within one year. In case such term exceeds 1 year, the participant has to go under the other tests which s/he has succeeded, again.		
<b>9</b>	<b>QUALIFICATION DEVELOPMENT INSTITUTION(S)/ORGANIZATIONS(S)</b>	TÜBİDER Informatics Sector Association
<b>10</b>	<b>SECTOR COMMITTEE TO VERIFY QUALIFICATION ITEM</b>	VQA Informatics Technologies sector Committee
<b>11</b>	<b>DATE AND NUMBER OF APPROVAL BY VQA BOARD OF DIRECTORS</b>	12/06/2013 – 2013/45

## ANNEXES

**ANNEX 13UY0166-6/A1-1:** Information on Recommended Training to Earn a Qualification Item

It is recommended to complete the training program with the below content in order to obtain this unit.

## Content of Training:

- Occupational Health and Safety
- Basic Occupational Health and Safety Legislation
- Basic labor legislation
- Basic Environment legislation
- Environmental Protection Measures
- Appropriate Security and Environmental Procedures
- Preparation of Working Area
- Arrangement of Working Area
- Work Planning
- Team Work / Task Distribution Management
- Ensuring Efficiency of Business Resources
- Quality Management System
- Recording, Reporting, and Archiving Activities
- Coordination with other members of profession

**ANNEX 13UY0166-6/A1-2:** Control list to be used in measurement and assessment of the Qualification Item

## a) DATA

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.1	Explains works to be done in order to reduce risk factors (contribute to workers, informing the related person on errors that do not take place in the instructions, contributing to eliminate of sources of danger and risk factors).	A.1.1 A.1.2 A.1.3	1.1	T1
BG.2	Lists first aid and emergency response means	A.2.1	1.2	T1
BG.3	Explains desk work rules (screen height and distance, resolution and brightness adjustment).	A.2.2 A.2.3	1.2	T1
BG.4	Explains desk work rules (correct sitting posture at a desk, time for unbroken sitting and break intervals).	A.2.4 A.2.5	1.2	T1
BG.5	Explains the required thermal comfort conditions in the work environment.	A.2.4 A.2.5	1.2	T1
BG.6	Explains how to supervise to apply work safety measure and behavior appropriate to OHS and proper use of PPE planned and unplanned in work processes of employees according to related instructions.	A.2.6	1.2	T1



No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.7	Explains what to do if employees continue behaviors contrary to the rules of OHS in the work processes (warning, reporting to the supervisor).	A.2.7 A.2.8	1.2	T1
BG.8	Explains how to place safety and health signs and plates in accordance with the instructions in the environment of work.	A.3.1	1.3	T1
BG.9	Explains how to place OHS tools and equipment in accordance with the instructions in the environment of work.	A.3.2	1.3	T1
BG.10	Explains work field and related OHS measures and operations needed to be considered (such as measures heating, cooling, lighting applications).	A.3.3	1.3	T1
BG.11	Explains how to comply with safe working periods as specified in the instructions of work.	A.3.4	1.3	T1
BG.12	Explains how to use office equipment during the period of work as specified in the instructions.	A.3.5	1.3	T1
BG.13	Explains emergency measures to be applied in emergency situations (participation in emergency team works, fulfill the tasks assigned, and informing the relevant departments in emergency situations).	A.4.1 A.4.2 A.4.3	1.4	T1
BG.14	Explains emergency situation and rules specific to applied methods.	A.4.4	1.4	T1
BG.15	Explains rules and methods of emergency exit in situations of emergency.	A.4.5	1.4	T1
BG.16	Explains how to contribute to evaluation of environmental impacts and identification of potential hazards in environments where processes are carried out and associated with the work to be done.	B.1.1	2.1	T1
BG.17	Explains how to follow the ways related to environment and works to be done that are not included in the instructions for reported and identified hazards and risks.	B.1.2	2.1	T1
BG.18	Explains how to contribute to the works of elimination sources of environmental hazards and risk factors identified.	B.1.3	2.1	T1
BG.19	Explains how to take precautions in accordance with the defined environmental impacts and potential hazards that may occur during work processes according to instructions.	B.2.1	2.2	T1
BG.20	Explains how to apply the emergency measures that occur despite precautions in accordance with the work rules and technical methods.	B.2.2	2.2	T1
BG.21	Explains how to ensure disposal of waste generated during the work process, according to the operating instructions.	B.2.3	2.2	T1
BG.22	Takes measures related to safe and healthy operation of device, equipment and tools used against negative environmental impacts to occur.	B.2.4	2.2	T1

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.23	Explains how to check the status, employees comply with environmental protection measures according to the instructions planned and unplanned in work processes;	B.2.5	2.2	T1
BG.24	Explains methods of saving and efficient use of company resources (energy, supplies, time, equipment, tools, etc..) in work processes.	B.3.1 B.3.2 B.3.3	2.3	T1
BG.25	Explains how to control the use of company resources efficiently by employees planned and unplanned in work processes according to the instructions.	B.3.4	2.3	T1
BG.26	Explains how to apply rules and methods of quality assurance of the company according to the instructions.	C.1.1	3.1	T1
BG.27	Explains how to ensure work of equipment and tools used in work processes in accordance with the conditions of quality assurance and methods	C.1.2	3.1	T1
BG.28	Explains how to check compliance with the standards of the transactions are announced.	C.1.3	3.1	T1
BG.29	Explains how to fill in work-related quality management system forms.	C.1.4	3.1	T1
BG.30	Explains identified path to follow during the work associated with error and failure.	C.2.1	3.2	T1
BG.31	Explains how to contribute to issues of examination and evaluation regarding the determination of the reasons causing problems.	C.2.2	3.2	T1
BG.32	Explains the path to follow for work process improvement in order to assess the observations that he and his team developed to correct errors.	C.2.3	3.2	T1
BG.33	Explains how to apply and ensure the application of methods and rules to remove problems of the company.	C.2.4	3.2	T1
BG.34	Explains the path to follow to remove error and failures which are not in his competence or he can not remove.	C.2.5	3.2	T1
BG.35	Explains issues to be taken into consideration when taking work requests from the system/ related unit/customer regarding his own unit.	D.1.1	4.1	T1
BG.36	Explains activities to do when evaluating any request received (source control, to determine the estimated work time, work based traceability).	D.1.2 D.1.3 D.1.4	4.1	T1
BG.37	Explains issues to be taken into consideration for creating work teams when appointments of responsible staff will be made.	D.1.5	4.1	T1
BG.38	Explains forwarding the work orders to the staff responsible.	D.1.6	4.1	T1
BG.39	Explains issues to be taken into consideration when making evaluations regarding work orders with the staff responsible.	D.1.7	4.1	T1
BG.40	Explains issues to be taken into consideration in work planning (using the work calendar, making an individual work plan, approving the work plan, revising the work plan).	D.2.1 D.2.2 D.2.3 D.2.4	4.2	T1

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.41	Explains issues to be taken into consideration when distributing works between team / staff according to work planning.	D.3.1	4.3	T1
BG.42	Explains how to check the jobs performed.	D.3.2	4.3	T1
BG.43	Explains issues to be taken into consideration when attending to works in necessary cases.	D.3.3	4.3	T1
BG.44	Explains how to establish characteristics and scope of work by examining the work areas in order to perform uninterrupted and proper working.	D.4.1	4.4	T1
BG.45	Explains how to bring the working area safe and appropriate to the work to be done according to scope and established characteristics of the working area.	D.4.2	4.4	T1
BG.46	Explains how to remove or let removed materials from the environment of working that are not related with the work.	D.4.3	4.4	T1
BG.47	Explains how to describe the location of tools, equipment and sets related with work.	D.4.4	4.4	T1
BG.48	Explains how to contribute to the standardization of the work area and to the improvement of negative characteristics.	D.4.5	4.4	T1
BG.49	Explains how to leave the working area after the end of the work according to properties, effects and relating methods of work (cleaning, making off the current of unused electric tools, equipment and sets, to leave the area appropriate to other works).	D.4.6 D.4.7 D.4.8	4.4	T1
BG.50	Explains actions in keeping forms and records of the works done (to ensure that the forms are filled in accordance with the company format, controlling the filled forms, to ensure that the forms are forwarded to the relevant departments).	D.5.1 D.5.2 D.5.3	4.5	T1
BG.51	Explains how to prepare reports on the results of performed works.	D.6.1	4.6	T1
BG.52	Explains the path to be tracked regarding works not carried out (evaluating reasons, reporting to superiors).	D.6.2	4.6	T1
BG.53	Explains the path to be tracked regarding works not completed (informing the claimant unit written and / or verbal).	D.6.3	4.6	T1
BG.54	Explains how to inform disruptions to the superiors according to the rules and methods of operation of workplace (verbal and / or written).	D.6.4	4.6	T1

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.55	Explains operations outside the area of workspace or conducted work (electrical installation processes, environmental regulators such as heating and cooling and humidity, phone lines and internet connections, computer hardware, installation and configuration of peripherals, intermediate and advanced-level software configuration).	D.7.1 D.7.2 D.7.3 D.7.4 D.7.5	4.7	T1
BG.56	Explains how to ensure archiving of reports, forms etc. after the end of work for technical transmission to the next levels according to technical rules and procedures of the company.	D.8.1	4.8	T1
BG.57	Explains how to implement the security and protection measures of digital archive according to work rules and methods.	D.8.2	4.8	T1
BG.58	Explains issues to take into account while determining the subject, content within daily experiences and observations of self educational needs.	I.1.1	5.1	T1
BG.59	Explains issues to be taken into consideration within the needs identified requesting from employer/relevant departments.	I.1.2	5.1	T1
BG.60	Explains how to follow educational programs organized by Vocational organizations, new tools, hardware, new methods, new systems of technological developments, periodicals in the profession and sector.	I.1.3 I.2.1	5.1	T1
BG.61	Explains how to give feedback and suggestions about vocational training to the relevant departments	I.1.4	5.1	T1
BG.62	Explains how to follow legislation, norms and changes relating to the duties (from publications of the relevant work units or external sources).	I.2.2	5.1	T1
BG.63	Explains issues to be taken into consideration when sharing the information and documents acquired with employees and senior management.	I.2.3	5.1	T1
BG.64	Explains issues to be taken into consideration when reflecting the changes and plans to the work plans and processes.	I.2.4	5.1	T1
BG.65	Explains how to establish needs of training in knowledge, skills, Vocational attitude and work habits of unit staff	I.3.1	5.2	T1
BG.66	Explains issues needed to be taken into consideration when informing the related units about training needs of the staff .	I.3.2	5.2	T1
BG.67	Explains how to supervise the participation of the staff to the planned training.	I.3.3	5.2	T1
BG.68	Explains the path to follow when informing the unit staff about work instructions of works to be done, knowledge and experience and when attending the start of work of the personnel (if necessary to show practical job, sharing documents, observing the personnel and correction of negativities).	I.4.1 I.4.2 I.4.3 I.4.4	5.3	T1

**b) SKILLS & QUALIFICATIONS**

No	Expression of Skill and Competency	NVS	QI Success Criterion	Assessment Tool
-	-	-	-	-

1	<b>NAME OF QUALIFICATION ITEM</b>	Sales Techniques and Basics of IT Solutions
2	<b>REFERENCE CODE</b>	13UY0166-6/A2
3	<b>LEVEL</b>	6
4	<b>CREDIT VALUE</b>	-
5	<b>A) DATE OF PUBLICATION</b>	12/06/2013
	<b>B) REVISION NO</b>	00
	<b>C) REVISION DATE</b>	-
6	<b>VOCATIONAL STANDARD(S) FORMING THE BASIS FOR THE QUALIFICATION</b>	
IT Solutions Specialist (Level 6) National Vocational Standard 13UMS0290-6		
7	<b>LEARNING OUTCOMES</b>	
<b>Learning Outcome 1: Explains sales techniques and accounting operations.</b>		
<b>Performance Criteria:</b>		
1.1. Explain the basic concepts and techniques of sales.		
1.2. Explains the basics of sales transactions		
1.3. Explains issues of general accounting.		
<b>Learning Outcome 2: Explains Management of Customer Relationship and Enterprise Resource</b>		
<b>Performance Criteria:</b>		
2.1. Explains the importance of customer satisfaction.		
2.2. Explains customer relationship management.		
2.3. Explains the features of Enterprise Resource Management.		
2.4. Explains the advantages and disadvantages of Enterprise Resource Management.		
<b>Learning Outcome 3: Explains the basics of computers.</b>		
<b>Performance Criteria:</b>		
3.1. Explains computer technology.		
3.2. Describes the basic computer use.		
<b>Learning Outcome 4: Explains information technology and security.</b>		
<b>Performance Criteria:</b>		
4.1. Explains different solutions used in information technology.		
4.2. Explains information security.		
8	<b>ASSESSMENT</b>	
<b>8 a) Theoretical Examination</b>		
<p><b>T1:</b> Test exam will be applied for assessment and evaluation. In the exam, questions as choice from multiple to single- multiple to multiple and true-false type questions can be asked. The examination may be done in writing or with CBT / IBT system in computer. If IBT system is used, questions as the right-wrong list, mapping and sequencing can be asked. The participants shall be asked 40 questions at least in the exam with equal points, participants must give at least 70% correct answers. Questions shall as to cover learning outcomes and "Information" control list in the Annex 13UY0166-6/A1-2. Average period of time per question shall be estimated as 1-1,5 minutes.</p>		
<b>8 b) Performance based Examination</b>		
No performance-based examination is stipulated.		

**8 c) Other Assessment related conditions**

It is necessary to be successful at all exams, which are needed to obtain the Qualification certificate within one year. In case such term exceeds 1 year, the participant has to go under the other tests which s/he has succeeded, again.

<b>9</b>	<b>QUALIFICATION DEVELOPMENT INSTITUTION(S)/ORGANIZATIONS(S)</b>	TÜBİDER Informatics Sector Association
<b>10</b>	<b>SECTOR COMMITTEE TO VERIFY QUALIFICATION ITEM</b>	VQA Informatics Technologies sector Committee
<b>11</b>	<b>DATE AND NUMBER OF APPROVAL BY VQA BOARD OF DIRECTORS</b>	12/06/2013 – 2013/45

**ANNEXES****EK 13UY0166-6/A2-1:** Information on Recommended Training to Earn a Qualification Item

It is recommended to complete the training program with the below content in order to obtain this unit.

## Content of Training:

- Basic Sales Techniques
- Computer Literacy
- Customer Relationship
- Communication Techniques
- Basic Computer Use
- Basic Networking Concepts
- Cloud Computing
- Virtualization Technologies
- Server Technology
- Areas of Use of Embedded Systems
- E-Commerce Software
- Telecom Technologies
- Finance / Banking Technologies
- Call Center Technology
- Computer Components
- Portable Computers
- Mobile Applications
- Pre-Accounting Operations
- Cost Analysis
- Using Office Programs
- Customer Relationship Management
- Enterprise Resource Management
- Backup
- Database Basics
- System and Application Software

**ANNEX 13UY0166-6/A2-2:** Control list to be used in measurement and assessment of the Qualification Item**a) DATA**

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.1	Lists stages of the sales process with knowledge of the sales techniques (determination of prospective customers, making sales presentation, answering the questions, termination of sales, sales monitoring)	3.3.23	1.1	T1
BG.2	Explains product-oriented sales concepts with knowledge of sales techniques.	3.3.23	1.1	T1
BG.3	Explains customer-oriented sales concepts with knowledge of sales techniques.	3.3.23	1.1	T1
BG.4	Explains process-oriented sales concepts with knowledge of sales techniques.	3.3.23	1.1	T1



No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.5	Explains strategic sales concepts with knowledge of sales techniques.	3.3.23	1.1	T1
BG.6	Explains the differences of technology sales between other sectors with knowledge of sales techniques.	3.3.23	1.2	T1
BG.7	Lists things to do as market research activities with knowledge of sales techniques.	3.3.23	1.2	T1
BG.8	Lists matters to be considered during the negotiations of sales with knowledge of sales techniques	3.3.23	1.2	T1
BG.9	Explains how to perform invoice / delivery note operations with pre-accounting information.	3.3.19	1.3	T1
BG.10	Explains how to perform stock input and output operations with pre-accounting information.	3.3.19	1.3	T1
BG.11	Explains issues to be taken into consideration when analyzing the costs with pre-accounting information	3.3.19	1.3	T1
BG.12	Explains the concept and importance of customer satisfaction with knowledge of the customer relationship	3.3.16	2.1	T1
BG.13	Explains management models of customer relationships with knowledge of the customer relationship.	3.3.16	2.2	T1
BG.14	Lists customer relationship management solutions in the sales area with knowledge of the customer relationship (Reseller / automation of point of sales, sales force automation, internet sales, call center).	3.3.16	2.2	T1
BG.15	Explains solutions of customer relationships in the field of marketing with knowledge of the customer relationship (customer data management, analytical CRM, campaign management, customer loyalty).	3.3.16	2.2	T1
BG.16	Explains solutions of customer relationships offered in field of after sales services with knowledge of the customer relationship (help desk, calls and complaints management, field service automation and mobile solutions, after sales service analysis).	3.3.16	2.2	T1
BG.17	Explains the concept of for Enterprise Resource Management (ERP) at a basic level with knowledge of system and application software.	3.3.31	2.3	T1
BG.18	Explains the main reasons of ERP usage at a basic level with knowledge of system and application software.	3.3.31	2.3	T1
BG.19	Explains the features of ERP solution map at a basic level with knowledge of system and application software.	3.3.31	2.3	T1
BG.20	Explains issues to be taken into consideration for establishing of ERP modules at a basic level with knowledge of system and application software.	3.3.31	2.3	T1
BG.21	Explains issues to be taken into consideration of advantages of using ERP at a basic level with knowledge of system and application software.	3.3.31	2.4	T1
BG.22	Explains issues to be taken into consideration of disadvantages of using ERP at a basic level with knowledge of system and application software.	3.3.31	2.4	T1
BG.23	Lists external and internal components of the computer with the knowledge of computer hardware and peripherals.	3.3.3	3.1	T1
BG.24	Lists features of server technologies with basic level of server knowledge.	3.3.29	3.1	T1
BG.25	Lists with the knowledge of basic level network interfaces, servers, hardware and communications standard client architecture with its features.	3.3.29	3.1	T1



No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.26	Explains data collection, record keeping and reporting knowledge the characteristics of the data storage system.	3.3.35	3.1	T1
BG.27	Lists with knowledge of computer hardware and peripherals the areas of embedded systems.	3.3.3	3.1	T1
BG.28	Explains with knowledge of virtual private network technology and explains the concept of virtual and dedicated network.	3.3.22	3.1	T1
BG.29	Explains with knowledge of basic level network interfaces, servers, hardware and communications standards, communication standards and network interfaces.	3.3.29	3.1	T1
BG.30	At a basic level with knowledge of the database and the standard database and explain the standard.	3.3.30	3.1	T1
BG.31	Explains with knowledge of basic level system and application software the concept of the system and application software.	3.3.31	3.1	T1
BG.32	Explains with knowledge of computer operating systems, basic use of commonly used operating systems.	3.3.4	3.1	T1
BG.33	Explains with basic level knowledge of application software, the basic use of the word processing software.	3.3.31	3.2	T1
BG.34	Explains with basic level knowledge of application software, basic use of spreadsheet software.	3.3.31	3.2	T1
BG.35	Explains with knowledge of basic level application software, basic usage presentation software.	3.3.31	3.2	T1
BG.36	Explains with knowledge of Internet usage, basic use of a web browser software.	3.3.11	3.2	T1
BG.37	Explains with knowledge of Internet usage, the basic usage of types of electronic mail and instant messaging software	3.3.11	3.2	T1
BG.38	Explains wit internet usage knowledge the basics of using the internet.	3.3.11	3.2	T1
BG.39	Lists with basic level knowledge of system and application software, issues to be taken into consideration how to use the licensed software.	3.3.31	3.2	T1
BG.40	Explains with knowledge of basic level of database and the standards, the basic backup operations.	3.3.30	3.2	T1
BG.41	Explains with knowledge of basic level system and application software, the basic features of e-commerce software.	3.3.31	4.1	T1
BG.42	Explains with knowledge of basic level network interfaces, servers, hardware and communications standards and a basic level system and application software, the characteristics of the infrastructure used in e-commerce systems.	3.3.29 3.3.31	4.1	T1
BG.43	Explains with knowledge of basic level system and application software, the basic features of the mobile application.	3.3.31	4.1	T1
BG.44	Explains with knowledge of basic level system and application software, the advantages and disadvantages of mobile enterprise projects.	3.3.31	4.1	T1
BG.45	Explains with knowledge of basic level system and application software, cloud computing terminology and information sharing over the internet.	3.3.31	4.1	T1
BG.46	Lists with knowledge of basic level system and application software, areas of cloud computing services.	3.3.31	4.1	T1

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.47	Explains with basic level knowledge of system and application software, implementation models of cloud computing.	3.3.31	4.1	T1
BG.48	Explains with knowledge of basic level system and application software, security concept on the cloud computing and risks.	3.3.31	4.1	T1
BG.49	Explains with knowledge of basic level network interfaces, servers, hardware and communications standards and a basic level of knowledge with knowledge of system and application software, explains the features of telecom technologies.	3.3.29 3.3.31	4.1	T1
BG.50	Explains with knowledge of basic level network interfaces, servers, hardware and communications standards and with knowledge of system and application software, the finance / banking technologies	3.3.29 3.3.31	4.1	T1
BG.51	Explains with knowledge of basic level network interfaces, servers, hardware and communications standards and a basic level of knowledge of system and application software, requirements of call center technology and technological infrastructure.	3.3.29 3.3.31	4.1	T1
BG.52	Explains with knowledge of basic level system and application software, the concept of information security.	3.3.31	4.2	T1
BG.53	Explains with knowledge of basic level system and application software, the concept of cyber security.	3.3.31	4.2	T1
BG.54	Lists with knowledge of basic level system and application software, security vulnerabilities of new-generation technologies.	3.3.31	4.2	T1
BG.55	Explains with knowledge of basic level system and application software, security concept on the cloud computing and risks.	3.3.31	4.2	T1
BG.56	Explains with knowledge of basic level system and application software, concept of security and risk in mobile applications.	3.3.31	4.2	T1
BG.57	Explains with knowledge of basic level system and application software, the concept of security and risks in virtualization.	3.3.31	4.2	T1
BG.58	Explains with knowledge of basic level system and application software, erroneous information security approaches and the reasons.	3.3.31	4.2	T1
BG.59	Explains with knowledge of basic level system and application software, the security in the software development process and matters to be considered.	3.3.31	4.2	T1

#### b) SKILLS & QUALIFICATIONS

No	Expression of Skill and Competency	NVS	QI Success Criterion	Assessment Tool
-	-	-	-	-

**13UY0166-6/A3 IT SOLUTIONS PLANNING AND DESIGNING QUALIFICATION ITEM**

<b>1</b>	<b>NAME OF QUALIFICATION ITEM</b>	IT Solutions Planning and Designing
<b>2</b>	<b>REFERENCE CODE</b>	13UY0166-6/A3
<b>3</b>	<b>LEVEL</b>	6
<b>4</b>	<b>CREDIT VALUE</b>	-
<b>5</b>	<b>A) DATE OF PUBLICATION</b>	12/06/2013
	<b>B) REVISION NO</b>	
	<b>C) REVISION DATE</b>	-
<b>6</b>	<b>VOCATIONAL STANDARD(S) FORMING THE BASIS FOR THE QUALIFICATION</b>	
IT Solutions Specialist (Level 6) National Vocational Standard 13UMS0290-6		
<b>7</b>	<b>LEARNING OUTCOMES</b>	
<p><b>Learning Outcome 1: Explains how to plan IT Solutions in coordination with relevant units.</b></p> <p><b>Performance Criteria:</b></p> <ol style="list-style-type: none"> <li>1.1. Explains activities required to perform in order to determine the IT needs of the enterprise.</li> <li>1.2. Explains issues to be taken into consideration when making job analysis.</li> <li>1.3. Explains validating of prepared job analysis by the company.</li> <li>1.4. Explains how to ensure data security and privacy</li> </ol> <p><b>Learning Outcome 2: Explains how to design IT solutions.</b></p> <p><b>Performance Criteria:</b></p> <ol style="list-style-type: none"> <li>2.1. Explains how to design integrated solutions.</li> <li>2.2. Explains how the solutions form the information technology architecture.</li> </ol> <p><b>Learning Outcome 3: Prepares a proposal for IT solutions.</b></p> <p><b>Performance Criteria:</b></p> <ol style="list-style-type: none"> <li>3.1. Plans IT solutions by identifying IT needs of the company.</li> <li>3.2. Designs planned IT solutions.</li> <li>3.3. Presents designed IT solution</li> </ol>		
<b>8</b>	<b>ASSESSMENT</b>	
<b>8 a) Theoretical Examination</b>		
<p><b>T1:</b> Test exam will be applied for assessment and evaluation. In the exam, questions as choice from multiple to single-multiple to multiple and true-false type questions can be asked. The examination may be done in writing or with CBT / IBT system in computer. If IBT system is used, questions as the right-wrong list, mapping and sequencing can be asked. The participants shall be asked 30 questions at least in the exam with equal points, participants must give at least 70% correct answers. Questions shall as to cover learning outcomes and "Information" control list in the Annex 13UY0166-6/A1-2. Average period of time per question shall be estimated as 1-1,5 minutes.</p>		
<b>8 b) Performance based Examination</b>		
<p><b>P1 - Planning, Designing and Presentation Application of IT Solutions Project:</b> It is expected that the applicant presents and explains an IT solution planned, designed and installed to the system, including server and storage infrastructure previously by himself and before the exam to cover a medium-sized enterprise size in the context of the questions identified in the control list. The evaluation is done by at least two evaluators. Application period is determined by the size of the scope of IT solutions. Performance of candidate is assessed according to checklist "Skills and Competencies" given in ANNEX 13UY0166-6/A3-2. In order to be deemed successful the candidate should demonstrate adequate performance in all steps involved in the control list.</p>		

**8 c) Other Assessment related conditions**

The candidate should be successful in both examinations. The unsuccessful candidate at any part of the examination can take the exam in the part s/he failed once more within 1 year.

<b>9</b>	<b>QUALIFICATION DEVELOPMENT INSTITUTION(S)/ORGANIZATIONS(S)</b>	TÜBİDER Informatics Sector Association
<b>10</b>	<b>SECTOR COMMITTEE TO VERIFY QUALIFICATION ITEM</b>	VQA Informatics Technologies sector Committee
<b>11</b>	<b>DATE AND NUMBER OF APPROVAL BY VQA BOARD OF DIRECTORS</b>	12/06/2013 – 2013/45

**ANNEXES****EK 13UY0166-6/A3-1:** Information on Recommended Training to Earn a Qualification Item

It is recommended to complete the training program with the below content in order to obtain this unit.

## Content of Training:

- Business Analysis
- IT Solution Planning
- IT Solution Modeling
- Data Security and Confidentiality
- IT Solution Design
- Hardware and Software Knowledge
- Creating business process
- Solution Proposal Development Techniques
- Presentation Techniques
- Informatics Technology Architectures
- Benefit / Cost Analysis

**ANNEX 13UY0166-6/A3-2:** Control list to be used in measurement and assessment of the Qualification Item**a) DATA**

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.1	Explains issues to be taken into consideration when planning activities of work analysis to be carried out.	E.1.1	1.1	T1
BG.2	Explains issues to be taken into consideration when determining the IT needs of the company (meetings with the authorized person, evaluation of research of IT solutions meeting the current target, work models and functional processes of the company).	E.1.2 E.1.3 E.1.4	1.1	T1
BG.3	Explains issues to be taken into consideration when determining the IT needs of the company (getting the functional needs from users and stakeholders, research of work model of the company from different sources, documenting all the data collected).	E.1.5 E.1.6 E.1.7	1.1	T1
BG.4	Explains identified needs and how to analyze the current situation.	E.2.1	1.2	T1
BG.5	Explains the issues to be taken into consideration when communicating with officials of the company to perform work analysis activities.	E.2.2	1.2	T1
BG.6	Explains how to control description of work scope of all of the work processes of the company.	E.2.3	1.2	T1
BG.7	Explains the issues to be taken into consideration when doing parallel modeling to work analysis processes.	E.2.4	1.2	T1
BG.8	Explains the issues to be taken into consideration when trying the work analysis in the company processes.	E.2.5	1.2	T1
BG.9	Explains how to examine the results of models.	E.2.6	1.2	T1
BG.10	Explains the issues to be taken into consideration when listing the results of work analysis.	E.2.7	1.2	T1

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.11	Explains how to control the appropriateness of the prepared work analysis to the required solutions.	E.3.1	1.3	T1
BG.12	Explains the issues to be taken into consideration when sharing the results of work analysis and needs determined after the analysis with the administration of the company.	E.3.2 E.3.3	1.3	T1
BG.13	Explains how to agree with company on the results of submitted analysis	E.3.4	1.3	T1
BG.14	Explains issues to be taken into consideration to behave according to the data safety and secrecy of the company.	E.4.1	1.4	T1
BG.15	Explains how to apply the measures to keep the information secrecy of customers according to rules and methods of the company.	E.4.2	1.4	T1
BG.16	Explains how to plan the solutions according to the defined work needs.	F.1.1	2.1	T1
BG.17	Explains the issues to be taken into consideration when preparing the architectural model of the solution.	F.1.2	2.1	T1
BG.18	Explains how to establish IT hardware and software to be used in the solution.	F.1.3	2.1	T1
BG.19	Explains how to prepare cost-benefit analysis of the solutions, developed according to work requirements.	F.1.4	2.1	T1
BG.20	Explains the issues to be taken into consideration when forming processes and models for solution.	F.1.5	2.1	T1
BG.21	Explains the issues to be taken into consideration when sharing the solution into manageable and applicable pieces.	F.1.6	2.1	T1
BG.22	Explains how to compare by developing alternative solutions.	F.1.7	2.1	T1
BG.23	Explains how to realize work prototypes according to designed processes and models.	F.1.8	2.1	T1
BG.24	Explains the issues to be taken into consideration when prosing regarding research of best applications and models in the relevant solution.	F.1.9	2.1	T1
BG.25	Explains how to perform the presentation of the designed solution to the administration of the company.	F.1.10	2.1	T1
BG.26	Explains how to agree on a presented solution with the company.	F.1.11	2.1	T1
BG.27	Explains how to plan system infrastructure of hardware, local and wide area communication infrastructure, database and application to meet the needs of solutions.	F.2.1 F.2.2 F.2.3	2.2	T1
BG.28	Explains how to control planned infrastructure and application components and their compatibility with each other as a whole.	F.2.4 F.2.5	2.2	T1
BG.29	Explains how to present the suggested solution by determining active function of references of technology architecture to the company.	F.2.6	2.2	T1
BG.30	Explains how to do the benefit-cost analysis of the IT architecture.	F.2.7	2.2	T1
BG.31	Explains the issues to be taken into consideration when submitting and presenting the IT architecture of the proposed solution to the company.	F.2.8	2.2	T1

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.32	Explains how to agree on the architecture of IT technologies with the company.	F.2.9	2.2	T1

**b) SKILLS & QUALIFICATIONS**

No	Expression of Skill and Competency	NVS	QI Success Criterion	Assessment Tool
BY.1	Plans work analysis activities to carry out.	E.1.1	3.1	P1
BY.2	Analyses determined needs and current situation.	E.2.1	3.1	P1
BY.3	Designs solutions according to the defined work needs.	F.1.1	3.2	P1
BY.4	Creates architectural model of the solution.	F.1.2	3.2	P1
BY.5	Determines IT hardware and software to use in the solution.	F.1.3	3.2	P1
BY.6	Prepares presentation material of designed solution.	F.1.10	3.3	P1
BY.7	Performs presentation of designed solution to business management.	F.1.10	3.3	P1



<b>13UY0166-6/A4 UNIT OF QUALIFICATION IN CREATING IT SOLUTIONS AND PERFORMING ACTIVITIES AFTER SOLUTION</b>		
<b>1</b>	<b>NAME OF QUALIFICATION ITEM</b>	Creating IT Solutions and Executing Post-Solution Activities
<b>2</b>	<b>REFERENCE CODE</b>	13UY0166-6/A4
<b>3</b>	<b>LEVEL</b>	6
<b>4</b>	<b>CREDIT VALUE</b>	-
<b>5</b>	<b>A) DATE OF PUBLICATION</b>	12/06/2013
	<b>B) REVISION NO</b>	00
	<b>C) REVISION DATE</b>	-
<b>6</b>	<b>VOCATIONAL STANDARD(S) FORMING THE BASIS FOR THE QUALIFICATION</b>	
IT Solutions Specialist (Level 6) National Vocational Standard 13UMS0290-6		
<b>7</b>	<b>LEARNING OUTCOMES</b>	
<b>Learning Outcome 1: Explains how to create the project of IT solutions.</b>		
<b>Performance Criteria:</b>		
<ul style="list-style-type: none"> <li>1.1. Explains how ensure appropriate hardware and infrastructure services.</li> <li>1.2. Explains how to contribute for developments of appropriate software and development tools.</li> <li>1.3. Explains the issues to be taken into consideration when following development process of solutions</li> <li>1.4. Explains how to plan the quality assurance to the solution.</li> <li>1.5. Explains how to ensure the sustainability of the solution.</li> </ul>		
<b>Learning Outcome 2: Explains the activities to be done after the solution.</b>		
<b>Performance Criteria:</b>		
<ul style="list-style-type: none"> <li>2.1. Explains how the establish problems of created solution</li> <li>2.2. Explains how to remove the problems of created solution.</li> <li>2.3. Explains how to make reporting and documentation procedures.</li> </ul>		
<b>Learning Outcome 3: Does SWOT analysis of the IT solution created.</b>		
<b>Performance Criteria:</b>		
<ul style="list-style-type: none"> <li>3.1. Plans the quality assurance of the solution</li> <li>3.2. Ensures the sustainability of the solution.</li> <li>3.3. Identifies the problem of the solution created</li> </ul>		
<b>8</b>	<b>ASSESSMENT</b>	
<b>8 a) Theoretical Examination</b>		
<p><b>T1:</b> Test exam will be applied for assessment and evaluation. In the exam, questions as choice from multiple to single-multiple to multiple and true-false type questions can be asked. The examination may be done in writing or with CBT / IBT system in computer. If IBT system is used, questions as the right-wrong list, mapping and sequencing can be asked. The participants shall be asked 25 questions at least in the exam with equal points, participants must give at least 70% correct answers.</p> <p>Questions shall as to cover learning outcomes and "Information" control list in the Annex 13UY0166-6/A1-2. Average period of time per question shall be estimated as 1-1,5 minutes.</p>		



**8 b) Performance based Examination**

**Application of SWOT analysis P1 - IT Solutions:** It is expected from the candidate to do SWOT analysis containing network, server and storage infrastructure, as to include a medium-sized company within the context of a pre-prepared control list of a prepared IT solution. The evaluation is done by at least two evaluators according to the criteria in the control list. Application period is determined by the size of the scope of IT solutions. Performance of candidate is assessed according to checklist "Skills and Competencies" given in ANNEX 13UY0166-6/A4-2. In order to be deemed successful the candidate should demonstrate adequate performance in all steps involved in the control list.

**8 c) Other Assessment related conditions**

The candidate should be successful in both examinations. The unsuccessful candidate at any part of the examination can take the exam in the part s/he failed once more within 1 year.

<b>9</b>	<b>QUALIFICATION DEVELOPMENT INSTITUTION(S)/ORGANIZATIONS(S)</b>	TÜBİDER Informatics Sector Association
<b>10</b>	<b>SECTOR COMMITTEE TO VERIFY QUALIFICATION ITEM</b>	VQA Informatics Technologies sector Committee
<b>11</b>	<b>DATE AND NUMBER OF APPROVAL BY VQA BOARD OF DIRECTORS</b>	12/06/2013 – 2013/45

**ANNEXES****EK 13UY0166-6/A4-1:** Information on Recommended Training to Earn a Qualification Item

It is recommended to complete the training program with the below content in order to obtain this unit.

## Content of Training:

- SWOT Analysis
- Software and Development Tools
- Hardware and Infrastructure Services
- Quality Assurance
- Sustainability
- Reporting
- Documentation
- Troubleshooting

**ANNEX 13UY0166-6/A4-2:** Control list to be used in measurement and assessment of the Qualification Item**a) DATA**

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.1	Explains issues to be taken into consideration when determining the appropriate hardware to models.	G.1.1	1.1	T1
BG.2	Explains how to start the procurement process of hardware, determined for solution requirements.	G.1.2	1.1	T1
BG.3	Explains supervision of installing hardware and infrastructure appropriate to solutions and designed model.	G.1.3 G.1.5	1.1	T1
BG.4	Explains how to determine infrastructure services appropriate to solutions and designed model.	G.1.4	1.1	T1
BG.5	Explains how to contribute establishing of application and development software inventory appropriate to solutions and designed model.	G.2.1 G.2.2	1.2	T1
BG.6	Explains issues to be taken into consideration when submitting proposal to the administration of the company to use proper developing media, software and third party solutions.	G.2.3	1.2	T1
BG.7	Explains how to follow the analyzed and established application components within the stated period, according to requirements (functional requirements, performance requirements, etc.).	G.3.1	1.3	T1
BG.8	Explains how to contribute to development and testing environments of the projects.	G.3.2	1.3	T1
BG.9	Explains issues to be taken into consideration in the methods defined to monitor the achievement and ensure project quality.	G.4.1	1.4	T1
BG.10	Explains issues to be taken into consideration while a bridging between stakeholders	G.4.2	1.4	T1
BG.11	Explains how to contribute giving customer service of good quality.	G.4.3	1.4	T1

No	Expression of Informaton	NVS	QI Success Criterion	Assessment Tool
BG.12	Explains issues to be taken into consideration when determining the scope of quality assurance with stakeholders and users.	G.4.4	1.4	T1
BG.13	Explains how to control the appropriateness of the solution to the scope, safety rules, process and quality standards as defined at the beginning of the project.	G.4.5 G.4.6 G.4.7	1.4	T1
BG.14	Explains issues to be taken into consideration when determining emergency and rescue situations.	G.5.1	1.5	T1
BG.15	Explains how to develop suggestions in order to reduce risks and determine maintenance requirements	G.5.2 G.5.4	1.5	T1
BG.16	Explains issues to be taken into consideration while providing recommendations in legal points.	G.5.3	1.5	T1
BG.17	Explains orientation off customer of the sold products for installation and configuration services	G.5.4	1.5	T1
BG.18	Explains how to analyze user problems after solutions are taken into use.	H.1.1	2.1	T1
BG.19	Explains how to contribute to determine the root cause of the problem.	H.1.2	2.1	T1
BG.20	Explains how to determine the source of solution of the problems.	H.1.3	2.2	T1
BG.21	Explains issues to be taken into consideration in making corrective recommendations based on root cause.	H.1.4	2.2	T1
BG.22	Explains how to ensure the continuity of the solution.	H.1.5	2.2	T1
BG.23	Explains issues to be taken into consideration in reporting all activities and details performed relating the solution.	H.2.1	2.3	T1
BG.24	Explains how to inform the administrators of the company regarding possible IT requirements.	H.2.2	2.3	T1
BG.25	Explains how to ensure the preparation of topology of the solution model.	H.2.3	2.3	T1
BG.26	Explains issues to be taken into consideration in documentation of the solution and model created.	H.2.4	2.3	T1
BG.27	Explains how to make the final agreement on solution made with the customer.	H.2.5	2.3	T1
BG.28	Explains how to get the closing approval from the customer.	H.2.6	2.3	T1

#### b) SKILLS & QUALIFICATIONS

No	Expression of Skill and Competency	NVS	QI Success Criterion	Assessment Tool
BY.1	Defines a method in order to monitor the development and ensure the project quality.	G.4.1	3.1	P1
BY.2	Defines the scope of quality assurance with stakeholders and users.	G.4.4	3.1	P1
BY.3	Prepares emergency and disaster recovery plans.	G.5.1	3.2	P1
BY.4	Analyzes the user problems resulting after application of the solution.	H.1.1	3.3	P1

## ANNEXES

### ANNEX 1: Qualification Items

1. 13UY0166-6/A1 İSG, Kalite, İş Organizasyonu, Çevre Koruma ve Mesleki Gelişim
2. 13UY0166-6/A2 Sales Techniques and Principles of IT Solutions
3. 13UY0166-6/A3 IT Solutions Planning and Design
4. 13UY0166-6/A4 BT Forming of IT Solutions and Execution of Activities after

### ANNEX 2: Terms, Symbols and Abbreviations

**MAINTENANCE:** Activities including replacement of the worn, periodically changed or end-of-life parts of the related machinery, equipment, tools or systems; carrying out operations like cleaning of parts; setting of parts according to the technical instructions and user's manuals,

**IT:** Information Technologies

**IT SOLUTIONS:** Sustainable information technologies in consequence of use of solutions for integrated solutions from beginning to the end as to make the process uninterrupted in accordance with customer needs,

**INTEGRATED SOLUTION:** integrated solutions as to make the process uninterrupted in accordance with customer needs,

**CBT (COMPUTER BASED TEST):** Computer Based Test,

**PERIPHERALS:** Input - output units or equipment used with computer systems such as communication units (printer, mouse, keyboard, etc..)

**ENVIRONMENTAL CONDITIONS REGULATOR:** special equipment to regulate heating, cooling and humidity of a position,

**HARDWARE:** Networking, computer or peripherals, electronic, electromechanical and mechanical assembly,

**DOCUMENTATION:** Record keeping of data collected in order to reach the quality standards,

**ERP (ENTERPRISE RESOURCE PLANNING):** Enterprise Resource Planning,

**E-COMMERCE SOFTWARE:** software used to perform sales via the Internet,

**BENEFIT-COST ANALYSIS:** Method of analysis in order to determine the best approach with best benefit and most reasonable cost between different strategies,

**EMBEDDED SYSTEMS:** Integrated system that allows execution of a function as main or sub-system,

**IBT (INTERNET BASED TEST):** Internet-based test,

**HR:** Human Resources Unit

**ISCO:** International Standard Classification of Occupations,

**ISG (WHS):** Occupational Health & Safety,

**JOB ANALYSIS:** The process of detailed definition and examination with the smallest parts for a certain work,

**QUALITY ASSURANCE:** To combine of all functions of a product or service, in order to meet customer needs correctly and wholly,

**MODELING:** To make a simple sample of a system to examine of that system,

**STAKEHOLDERS:** Individuals, groups, institutions and organizations affected or affecting the process during the project or after the project directly or indirectly,

**PROTOTYPE :** A simple design model of the product to be manufactured before production,

**RISK:** Means probability of occurrence of a hazardous event and combination of results.

**VIRTUALIZATION:** Processes of identification of virtual network equipment, to ensure the performing of the operating systems,

**SUSTAINABILITY :** the ability to be sustained over time ,

**SWOT (STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS) Analysis :** A strategic technique to determine in a project of an organization, technique, process, situation or person's strengths and weak aspects, opportunities and threats sourcing from internal and external environment,

**PROCUREMENT PROCESS :** The process of a product , from order entry to stocks,

**DANGER:** Damaging and harming potentiality existing in workplace or may come from outside, may affect the employees or workplace,

**NOS:** National Vocational Standard,

**SOFTWARE:** Management of hardware units and necessary programs consisting of network and computer systems that are required for users to do their jobs ,

**SOFTWARE INVENTORY:** Control and counting of all existing software in a system.

### ANNEX 3: Ways of Horizontal and Vertical Progress in Occupation

People having VQA Vocational Qualification Certificate in the field of IT Sales Personnel (Level 4) and IT Sales Officer (Level 5) National Qualification have to take tests of all of qualification items in scope of IT Solutions Specialist (Level 6) National Qualification in order to obtain VQA Vocational Qualification Certificate in the field of IT Solutions Specialist (Level 6) National Qualification.

**ANNEX 4: Assessor Criteria**

People to serve as evaluators should meet following condition.

- Having bachelor degree and at least 10 years of work experience as manager in the field of IT Solutions.