CONTEST DESCRIPTION

IT Network Systems Administration

VIRTUAL SECONDARY

Table of Contents

1 THE SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY

In response to the evolving labour market and changing skill needs, the Government of Canada has launched the new Skills for Success *(former Essential Skills)* model defining nine key skills needed by Canadians to participate in work, in education and training, and in modern society more broadly. SCC is currently working with Employment and Social Development Canada (ESDC) to bring awareness of the importance of these skills that are absolutely crucial for success in Trade and Technology careers. Part of this ongoing initiative requires the integration and identification of the Skills for Success in contest descriptions, projects, and project documents. The next phase and very important aspect of our Skills for Success (SfS) initiative is to provide a *Skills Report Card* to each competitor at the Skills Canada National Competition. The purpose of the report card is to inform the competitor about their current level of nine identified Skills for Success based on their competition scores. With this knowledge, the competitor will be made aware which skill may require improvement. Full implementation is expected in the next Skills Canada National Competition.

The following 9 skills have been identified and validated as key skills for success for the workplace in the legend below:

[1]Numeracy, [2]Communication, [3]Collaboration, [4]Adaptability, [5]Reading, [6]Writing, [7]Problem Solving, [8]Creativity and Innovation, [9]Digital

These Skills for Success have been identified in section 2.4 and/or 3.2 of your Contest Description and if applicable, in your Project and supporting documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupation(s)

https://www.skillscompetencescanada.com/en/skill_area/it-network-systems-administration/

2.2 Purpose of the Challenge

To evaluate each competitor's skills and to recognize excellence and professionalism in the field of IT network systems administration.

2.3 Duration of contest

During the SCNC 2022, the secondary category will be hosted virtually.
The competition for your skill will consist of a total of 6 hours.
A detailed schedule will be posted on our website.

Due to unforeseeable COVID-19 regulations/uncertainties, competition documents are subject to change.

2.4 Skills and Knowledge to be tested.

The competition evaluates a competitor's knowledge of computer and network system.

3 CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents on the Skills/Compétences Canada website

DOCUMENT	DATE OF DISTRIBUTION
No other competition document will be released prior to the competition	

3.2 Tasks that may be performed during the contest

3.2.1 Skills for Success

- Create, interpret, and modify network diagrams[5, 6]
- Create, interpret, and modify network, and system documentation, and processes[7]
- Use Windows capture technology such as Windows Steps Recorder and Snipping tools[9]

3.2.2 Physical system setup[9]

- Identify, install, connect and test hardware components[7]
- Setup and network workstations[7]
- Create and test networking cabling[7]
- Evaluate and justify component selection for particular tasks
- Basic system configuration as required

3.2.3 Desktop system configuration

- Install and configure virtual machines
- Install Operating Systems (User desktops in both Windows and Linux)
- Install, setup, and configure corporate productivity software products
- Install and verify correct operation of peripheral devices
- Use disk, system, and file management tools
- Configure operating system functionality including tasks such as: setting themes and control panel settings
- Configure networking in a workgroup environment including shares, permissions, printers[7]
- Configure and verify proper home computer security practices (eg anti-virus)

Due to unforeseeable COVID-19 regulations/uncertainties, competition documents are subject to change.

- Use built-in system tools to automate tasks.

3.2.4 Networking[7]

- Operate basic network diagnostic software utilities such as ping, ipconfig, traceroute, etc.
- Calculate and apply to a network, an IPv4 and/or IPv6 addressing scheme using subnetting and/or Variable Length Subnet Mask (VLSM)
- Configure a secure home wireless routing/firewall solution

3.2.5 Troubleshooting[7]

- Analyze and resolve common Desktop problems
- Analyze and resolve common home Network problems
- Use available documentation and logs to identify and resolve problems
- Fix and document resolution using customer complaint descriptions
- Troubleshoot software installation problems[7]
- Problem examples might include things like: inability to login, cannot access website, or machine not starting properly

3.2.6 Cyber-Security[7]

- Recognize safe online practices
- Maintaining and hardening critical services
- Recognize the need for and implement protections from malware attacks
- Answering forensics questions (need for Cybersecurity, attacks, Concepts and Techniques, …)

Skills for Success – [5]Reading, [6]Writing, [7]Problem Solving, [9]Digital

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by <u>the competitor and/or host facility</u>

- Suitable computer hardware
- VMWare Desktop virtualization software
- Cisco Packet Tracer 8.0.1 or higher
- .iso files for Windows 10 (or newer) and Ubuntu 20.04 or newer
- Internet connection
- Pen and Pencil

4.2 Required clothing provided by <u>the competitor</u>

- Competitors must be dressed as appropriate for an office environment.

5 HEALTH AND SAFETY

5.1 Safety program

SCC has implemented a comprehensive safety program as health and safety is an integral part of our competitions. Our safety program includes guidelines and procedures to make the work environment in each skill area safer.

5.1.1 Safety manual

As part of our program a safety manual has been created to monitor and document health and safety within each skill area. It includes a definite plan of action designed to prevent accidents. The safety manual will be provided for every skill and these instructions must be followed and respected by all participants and officials at the SCNC.

5.1.2 Safety workshop

During orientation, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety, and environmental rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

5.2 COVID-19 Protocol

The COVID guidelines already in place within the participants' jurisdiction would need to be followed during the SCNC. It is the responsibility of the participants (Competitor, Proctors, NTC members, and anyone onsite during the competition) to ensure that the COVID guidelines are respected.

5.3 List of required personal protective equipment (PPE) provided by the <u>competitor and/or host facility</u>

- No PPE required

Note: Competitors who do not have the required protective equipment will not be allowed to participate in the competition

6 ASSESSMENT

6.1 Point breakdown

Note: This list is subject to change.

TASKS	/100
PC hardware & Networking	25
Desktop configuration	30
Desktop support & troubleshooting	30
Cyber-Security	15

7 CONTEST SPECIFIC RULES

Contest specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from contest to contest. Any additional contest rules will be reviewed during the competitor orientation.

TOPIC/TASK	CONTEST SPECIFIC RULE
Use of technology - personal laptops, tablets and mobile phones	• Competitors are not allowed to bring USB/memory sticks into the skill area • Competitors should not expect access to the internet during the competition. • Competitors are not allowed to bring personal laptops tablets or mobile phones into the skill area
Source file/notes	• Competitors are not allowed to bring notes into the skill area. All notes made at the Competitor workstation must always remain on the Competitors desk. No notes may be taken outside of the skill area.
Equipment failure	• In the occurrence of equipment failure Competitors must notify the National Technical Committee (NTC) immediately by raising their hand. NTC members will take note of the time that the Competitor is not able to make use of their equipment. Any time lost due to equipment failure will be provided to the Competitor at the end of the standard Module time • No additional time will be granted for work not saved prior to the equipment failure

Due to unforeseeable COVID-19 regulations/uncertainties, competition documents are subject to change.

Breaks	• No extra time will be given to Competitors who stop work during competition time to go to the bathroom or for those who break for a food and/or drink. When time is completed, all Competitors must stop all work on their computer immediately.
National Technical Committee (NTC) room	• Competitors are not allowed to enter the National Technical Committee meeting room in the skill area

8 ADDITIONAL INFORMATION

8.1 Interpreter

If a competitor requires the help of an interpreter during the competition, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service may not be guaranteed.

8.2 Ties

- Tiebreaker #1: The competitor with the highest score in the Desktop support & troubleshooting module will be declared the winner.
- Tiebreaker #2: The competitor with the highest score in the PC hardware and networking module will be declared the winner.
  Tiebreaker #3: The competitor with the highest score in the Desktop configuration module will be declared the winner.

8.3 Competition rules

Refer to the competition rules of the Skills Canada National Competition which can be found on our website.

9 NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Newfoundland and Labrador	James Pelley – Co-Chair
Prince Edward Island	Donnie MacKinnon
Ontario	John Ulakovich
Manitoba	Gursharn Wander
Saskatchewan	Heath Armbruster
Alberta	Gerald Chung
British Columbia	Nolan Fretz – Chair

Due to unforeseeable COVID-19 regulations/uncertainties, competition documents are subject to change.

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Nathalie Maisonneuve (nathaliem@skillscanada.com).

Due to unforeseeable COVID-19 regulations/uncertainties, competition documents are subject to change.