

TECHNICAL ENGLISH WORKSHEET

Computer & Network Engineering (TKJ) – Procedure Text

SET A

STUDENT NAME

CLASS / MAJOR

DATE / SCORE

Package 1: Secure Business Email via Web Client

Read the procedure text below and answer the multiple-choice questions (1–5).

How to Send a Secure Business Email via a Web Client

Email remains a vital communication protocol in IT and business environments. Follow these instructions to compose and deliver a professional email effectively while maintaining cybersecurity standards:

- 1. Access the Client:** Open your web browser and log into your webmail interface (e.g., Gmail, Outlook) using encrypted authentication (HTTPS).
- 2. Compose:** Click the "Compose" button to open a new draft window.
- 3. Specify Recipients:**
 - Enter the primary recipient's address in the "To" field.
 - Use "CC" (Carbon Copy) if other parties need to stay informed without replying directly.
 - Use "BCC" (Blind Carbon Copy) when emailing a large group to hide individual addresses for data privacy.
- 4. Add Subject & Body:** Write a clear subject line summarizing the purpose. Structure your message professionally in the body section.
- 5. Attach Files Safely:** Click the paperclip icon to attach documents (max 25 MB). Scan external files for malware prior to attaching.
- 6. Review and Send:** Proofread content and verify addresses. Click "Send". The outgoing SMTP server will process and route your message.

1. What is the primary technical purpose of using the "BCC" field when sending an email?

- ☐ A. To automatically encrypt the attached files.
- ☐ B. To ensure all recipients reply to the entire group.
- ☐ C. To conceal recipient email addresses for privacy.
- ☐ D. To bypass maximum attachment size limits.

2. Based on the text, what should a user do before attaching an external file to an email?

- ☐ A. Convert the file into a ZIP folder immediately.
- ☐ B. Scan the file for potential malware or threats.
- ☐ C. Compress the file to less than 1 MB.
- ☐ D. Send the file to the SMTP server separately.

3. Which protocol/server is responsible for processing and delivering outgoing emails?

- ☐ A. HTTPS
- ☐ B. Webmail Interface
- ☐ C. SMTP Server
- ☐ D. CC Routing

4. "Use CC if other parties need to stay informed without being expected to reply directly." What can be inferred?

- ☐ A. CC recipients must take immediate action.
- ☐ B. CC recipients are added for situational awareness.
- ☐ C. CC recipients cannot read the message body.
- ☐ D. CC recipients receive the email anonymously.

Package 2: Router & Access Point Configuration

Read the configuration manual below and answer the comprehension questions (1–4).

Configuring a Wireless Router as a Dedicated Access Point (AP)

Converting a secondary wireless router into a Dedicated Access Point expands network range without creating conflicting subnets or IP collisions.

1. **Isolate Device:** Disconnect the secondary router from the main network. Connect your PC directly to one of its LAN ports using an Ethernet cable.
2. **Access Management Page:** Open a web browser and enter the default gateway IP address (192.168.1.1). Log in with admin credentials.
3. **Disable DHCP Server:** Navigate to **Network / LAN Settings**. Turn off the **DHCP Server** feature to prevent duplicate IP address assignments on the network.
4. **Assign Static IP:** Change the secondary router's LAN IP address to a static address within the main router's subnet range, but outside its dynamic DHCP pool (e.g., 192.168.1.2).
5. **Set Wireless Credentials:** Configure the SSID (Network Name) and security protocols (WPA2/WPA3 Personal) under Wireless Settings.
6. **Interconnect Routers:** Connect an Ethernet cable from a **LAN port** on the main router to a **LAN port** (not WAN) on the secondary router.

1. What is the critical consequence of forgetting to disable the DHCP Server on the secondary router?

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|---|---|
| ☐ A. The wireless signal strength will decrease significantly. | ☐ B. Network devices may experience IP address conflicts and lose internet access. |
| ☐ C. The secondary router will immediately overheat and shut down. | ☐ D. The main router's password will automatically reset to default. |

2. Why must the Ethernet cable be plugged into a LAN port rather than the WAN port in Step 6?

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| ☐ A. To allow the secondary router to act as a bridge on the same network segment. | ☐ B. Because the WAN port only supports optical fiber connections. |
| ☐ C. To speed up the physical installation of the router hardware. | ☐ D. To prevent wireless clients from viewing the broadcasted SSID. |

3. "This ensures the secondary router does not assign conflicting IP addresses..." The word "conflicting" means:

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|--|--|
| ☐ A. Harmonious | ☐ B. Clashing / overlapping |
| ☐ C. Identical | ☐ D. Temporary |

4. Which action must be executed BEFORE changing the secondary router's LAN IP address?

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|--|---|
| ☐ A. Connect the main router to the WAN port. | ☐ B. Disable the DHCP Server on the secondary router. |
| ☐ C. Change the WPA3 encryption key in wireless settings. | ☐ D. Plug the router directly into the main AC outlet. |

Package 3: Hardware Diagnostics & Cable Crimping

Analyze hardware procedures and rearrange diagnostic steps into logical order.

Part A Scenario: Troubleshooting a PC experiencing a "No Display / Black Screen" failure after power-on. Rearrange the diagnostic steps into the correct logical sequence by writing numbers (1 to 5) in the boxes.

Step A: Reinstall one RAM stick into Slot 1 and clear the CMOS by removing the coin-cell battery for 5 minutes.

Step B: Turn off the Power Supply Unit (PSU) switch and disconnect the main AC power cord to discharge residual electricity safely.

Step C: Power on the system to test if the BIOS splash screen appears on the monitor cleanly.

Step D: Open the chassis side panel and disconnect all non-essential peripherals (storage drives, external USBs).

Step E: Clean the gold contacts of the RAM module using a clean rubber eraser to eliminate oxidation layer.

Part B: Straight-Through Cable Crimping Procedure

Answer the procedural questions based on UTP cable termination standards.

Standard Wiring Reference (T568B): White-Orange, Orange, White-Green, Blue, White-Blue, Green, White-Brown, Brown.

1. What is the immediate step after stripping 2 cm of the outer cable jacket and untwisting the wire pairs?

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| ☐ A. Insert the wires into the RJ-45 connector. | ☐ B. Test the continuity with a LAN tester. |
| ☐ C. Arrange the wires according to T568B order. | ☐ D. Squeeze the crimping tool handle firmly. |

2. How do you verify a successful crimp when testing with a LAN tester?

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|---|---|
| ☐ A. All LED lights (1–8) illuminate sequentially on both units. | ☐ B. Only the power LED stays lit permanently. |
| ☐ C. The crimping tool emits a high-pitched beep. | ☐ D. Lights 1, 3, and 5 flash simultaneously. |

Package 4: Cybersecurity & Technical Terminology

Evaluate SSH security statements and match imperative verbs with their technical functions.

Hardening Server Access Against Unauthenticated SSH Attacks

1. Generate an RSA Key Pair on local workstation (`ssh-keygen`).
2. Copy **Public Key** to server's `~/.ssh/authorized_keys` . Keep **Private Key** on client.
3. Open SSH configuration file (`/etc/ssh/sshd_config`) with root privileges.
4. Set `PasswordAuthentication no` and `PermitRootLogin prohibit-password` .
5. Restart SSH service (`systemctl restart sshd`) to enforce changes.

Part A: True or False Statements

Circle **TRUE** if the statement is correct according to the procedure, or **FALSE** if incorrect.

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| 1. The SSH Private Key must be uploaded directly to the server configuration directory. | [TRUE / FALSE] |
| 2. Setting <code>PasswordAuthentication no</code> prevents automated brute-force attacks. | [TRUE / FALSE] |
| 3. Changes to <code>sshd_config</code> take effect immediately without restarting any service. | [TRUE / FALSE] |
| 4. Any standard user can modify the SSH configuration file without root privileges. | [TRUE / FALSE] |

Part B: Technical Imperative Verbs Matching

Match each imperative verb in Column A with its exact technical function in Column B by writing the correct letter in the middle column.

Column A (Action Verb)	Match	Column B (Technical Function)
1. Partition	[]	A. A network interface card (NIC) to assign static IP parameters.
2. Configure	[]	B. The physical storage drive into separate logical volumes (e.g., C: and D:).
3. Terminate	[]	C. The Ethernet cable wires cleanly into a keystone jack or patch panel.
4. Decrypt	[]	D. The incoming encrypted data packets using a valid private key.

