INDIAN SCHOOL AL WADI AL KABIR
Chapter 14: Workplace Quality Measures

INFORMATION TECHNOLOGY (402)

CLASS X

A pollution free air and water is an most important requirement of any organization. Most of the IT companies use centralized air conditioning systems to keep the temperature pleasant in the workplace. Water pollution is also one of the problems faced by many organizations. The polluted water may cause the disease. So organizations have to take care of air pollution and water pollution.

- **Air and Water Quality Monitoring process**

- Air and water pollution can be analyzed by using three forms of methods – Physical, chemical and biological.

- **Guidelines for Clean Air and Clean Water**

- A proper guidelines must be followed by organizations to keep the air and water clean. Some of the guidelines are –

- Organizations have to avoid dust production, generation of solid particles and gasses in the air.

- Organizations must use a limited number of vehicles to avoid air pollution.

- Organizations have to take care of air pollution, the generation of ozone gas must be kept at a low level by the organization.

- Organizations have to take care of sewage or the wastewater and make sure that this water is not mixed with the surrounding water.

- Extensive use of fertilizers and pesticide must be avoided as it can make the ground water polluted.

- **Importance of Cleanliness at Workplace**

- Clean workplace avoid hazardous. Clean workplace makes your job easier and more pleasant. Every person have to follow following cleanliness guideline at workplace –

- Employees are responsible for the cleanliness of their work area.

- Spills and breakage are to be cleaned up immediately.

- Spaces around the machine should be kept clean and clear.

- Floor should be kept clean to prevent slipping and collision.

- Lighting fixtures are to be checked regularly for a clean vision.

- **Office Ergonomics**

- Ergonomics is the science concerned with designing and arranging things, ergonomics helps to reduce accidents, injury and helps to improve the performance and productivity of an organization.

- **The following office ergonomics emphasize the identification of early warning signs.**

Early Warning Signs	Potential Cause	Try This
Sore lower back	No lumbar support	Use back rest of chair, put small pillow or lumbar support on backrest of chair
Burning in the upper back	No upper back support from chair	Put document holder or prop up so you can see without leaning forward
Stiff neck	Working with head turned to side tilting head forward holding telephone between the ear and shoulder	Move or raise monitor to centre of desk check if headset is available
Sore shoulders	Reaching forward for long periods or reaching forward frequently	Move closer to the keyboard, Bring mouse down to level of keyboard or 1" higher
Arching wrists	Working with wrists extended too much repetition	Add a wrist rest to the front of keyboard and mouse pad rest thumbs on front edge of keyboard so wrists can't drop.
Dry eyes	Forget to blink	Rest eyes periodically and do simple eye exercises
Eye strain and sore eyes	Glares from overhead lights or windows eye glasses not correct need vision check	Re-orient your desk and computer so light is not directly behind or in front of you.

- **Computer Health and Safety Tips**

- In every organization the use of computers is increasing, there are several health and safety issues related to vision, musculoskeletal issues, body aches and pains may occur due to improper use of computers. These problems can be resolved by adopting some simple corrective action.

- **Musculoskeletal Problems**

- This problem includes different areas of your body such as neck, back, chests, arms, shoulders and feet because of wrong posture, uncomfortable chair or not following basic rules while working on the computer.

- **To avoid this problem follow the following guideline –**

- Position of the monitor should be at your eye level.

- Keep your monitor at least arm length distance or 20 to 30 inches away from you.

- Keep your back against the backrest of the chair.

- Adjust height of armrests so that your elbows are at a 100-110 degrees open angle.

- Place the keyboard at a slight negative tilt if you are sitting upright.

- While typing keep your hands slightly lower than elbows.

- Minimize any twisting of your wrists from side to side or up and down.

- Use a keyboard palm rest as needed only when you are not typing.

- Always take small breaks while working on the computer

- **Occupational Overuse Syndrome**
- Occupational overuse syndrome is a type of injury in fingers, shoulder, neck, wrists, hands or elbows it is also known as repetitive strain injury or RSI. In this syndrome the pain, swelling and weakness in the affected joints.
- **The most common reason of affecting Occupational Overuse Syndrome –**
- Stress in the working place
- Wrong posture when sitting
- Forceful body movement
- Psycho social factors
- **Strain in Legs and Feet**
- If you are working on a computer for a long period then it may cause strain in your leg. Always feet should be supported on the floor or by footrest and try to stretch your legs after 30 minutes.

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- **Eye Strain**
- Computer bright light, poor light or flickering images can cause eye strain. It is important to look after your eye health and try to wear anti glare glasses when you are working on the computer.
- **To reduce the possibility of vision problem –**
- Adjust the brightness of computer screen
- Keep a proper vision distance from computer screen
- Blink your eyes in an every interval
- Wear anti glare glasses whenever you are working in computer
- Give your eyes periodic breaks from the screen
- Keep your monitor between 18 to 24 inches away from your face.
- **Headaches**
- Headache may occur due to muscle tension in neck, muscle pain in neck, Strain on the eyes or vision problem. Try to maintain a straight neck while working on the computer..

- **Obesity**
- Spending a long time on the computer may lead to a lack of physical activity and exercise. Before returning to work, you need to take a break.
- **Stress Disorders**
- Technology can impact our behaviors and emotions, excess use of computers may create poor health and increase pressure in your workplace. Try to do yoga, medications or natural remedies to reduce the stress.
- Digital security tools
- Buy vitamins and supplements
- **Injuries from Laptop Use**
- The laptop is designed for short term use, nowadays people are using laptops over desktops more frequently but the laptop designs are very compact. In a laptop the screen and keyboard close together which makes ergonomic use difficult which makes discomfort for work, using an ergonomic desktop is advisable.
- **Sleeping Problems**
- Artificial lights of computer screens can trick your brain and due to this your sleeping patterns, to avoid this don't use a computer before going to bed.

- **Health and Safety Requirements for Computer Workplace-**

    The minimum health and safety requirements for computer are as follow –

- **Display Screen (Monitor) –** Use LED monitor of legible size with adequate character and proper line spacing.

- **Keyboard –** There should be proper space in front of the keyboard to support your hands and arms. The symbols, characters and numbers should be clear and easy to read.

- **Work Surface –** The work desk should be large, non reflective and allow flexible placement of the screen and keyboard.

- **Work Chair –** The work chair must be stable and allow the user to move easily and find a comfortable position.

- **Space Requirements –** The user should have enough desk space for the equipment they use.

- **Lighting –** There should be proper light and appropriate contrast between the computer screen and background.

- **Reflections and Glare –** Workplace should avoid direct glare and distracting reflections from light.

- **Noise and Heat –** Avoid noise related equipment or the equipment producing heat which could cause discomfort to users.

- **Cautions while Working on the Computer**
- To work safely on a computer –
1. Unplug all power cables before changing or maintaining the computer, it will prevent hardware damage.
2. User a battery backup to protect against power failure.
3. Remove rings, watches and necklaces to avoid static damage.
4. The static electricity is generated when you are working on a computer, so use a surge protector when you plug your system in.
- **Watch Out for Cords and Wires**
1. Loose cords and wire can cause hazards and even electrical hazards.
2. Mark cords or wires crossing pathways using hazard tape.
3. Avoid water when working with electricity.
4. Never touch or repair electrical equipment with wet hands.