**Name…Hilal Ahmad**

**ID… 14573**

**Viva Assignment :**

**2. What are laboratory protocols ? Write down in detail all instructions required for lab staff to work in a medical lab according to standard protocols ?**

**Answer: laboratory protocols**

* A lab protocol, also known as a standard operating procedure, is a list of instructions to perform an experiment. It is a plan used to duplicate favorable results from a previous test. In a research laboratory, many protocols are needed for safety, to operate analytical equipment and to make solutions with minimal mistakes.

**Scope and Application**

* Every protocol needs to focus specifically on one type of experiment to be performed. This part of the protocol states the hypothesis and any methods that can reference it. It is important that results and any maximum detection limits are defined so that the user knows what to expect at the end of the experiment
* **according to for lab required to staff standard work in a medical lab Instructions protocols**
* **GENERAL GUIDELINES**
1. Conduct yourself in a responsible manner at all times in the laboratory.
2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ASK YOUR TEACHER BEFORE PROCEEDING WITH THE ACTIVITY.
3. Never work alone in the laboratory. No student may work in the science classroom without the presence of the teacher.
4. When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so.
5. Perform only those experiments authorized by your teacher. Carefully follow all instructions, both written and oral. Unauthorized experiments are not allowed.
6. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
7. Be prepared for your work in the laboratory. Read all procedures thoroughly before entering the laboratory. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
8. Always work in a well-ventilated area.
9. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times.
10. Be alert and proceed with caution at all times in the laboratory. Notify the teacher immediately of any unsafe conditions you observe.
11. Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water. Check with your teacher for disposal of chemicals and solutions.
12. Labels and equipment instructions must be read carefully before use. Set up and use the equipment as directed by your teacher.
13. Keep hands away from face, eyes, mouth, and body while using chemicals or lab equipment. Wash your hands with soap and water after performing all experiments.
14. Experiments must be personally monitored at all times. Do not wander around the room, distract other students, startle other students or interfere with the laboratory experiments of others.
15. Know the locations and operating procedures of all safety equipment including: first aid kit(s), and fire extinguisher. Know where the fire alarm and the exits are located.
16. Know what to do if there is a fire drill during a laboratory period; containers must be closed, and any electrical equipment turned off.
* **CLOTHING**
1. . Any time chemicals, heat, or glassware are used, students will wear safety goggles. NO EXCEPTIONS TO THIS RULE!

18. Contact lenses may be not be worn in the laboratory

19. Dress properly during a laboratory activity. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back, and dangling jewelry and baggy clothing must be secured. Shoes must completely cover the foot. No sandals allowed on lab days.

20. A lab coat or smock should be worn during laboratory experiments.

* **ACCIDENTS AND INJURIES**

21. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the teacher immediately, no matter how trivial it seems. Do not panic.

22. If you or your lab partner is hurt, immediately (and loudly) yell out the teacher's name to get the teacher's attention. Do not panic.

23. If a chemical should splash in your eye(s) or on your skin, immediately flush with running water for at least 20 minutes. Immediately (and loudly) yell out the teacher's name to get the teacher's attention.

* **HANDLING CHEMICALS**

24. All chemicals in the laboratory are to be considered dangerous. Avoid handling chemicals with fingers. Always use a tweezer. When making an observation, keep at least 1 foot away from the specimen. Do not taste, or smell any chemicals.

25. Check the label on all chemical bottles twice before removing any of the contents. Take only as much chemical as you need.

26. Never return unused chemicals to their original container.

27. Never remove chemicals or other materials from the laboratory area.

* **HANDLING GLASSWARE AND EQUIPMENT**

28. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken glass in the designated glass disposal container.

29. Examine glassware before each use. Never use chipped, cracked, or dirty glassware.

30. If you do not understand how to use a piece of equipment, ASK THE TEACHER FOR HELP!

31. Do not immerse hot glassware in cold water. The glassware may shatter.

* **HEATING SUBSTANCES**

32. Do not operate a hot plate by yourself. Take care that hair, clothing, and hands are a safe distance from the hot plate at all times. Use of hot plate is only allowed in the presence of the teacher.

33. Heated glassware remain very hot for a long time. They should be set aside in a designated place to cool, and picked up with caution. Use tongs or heat protective gloves if necessary.

34. Never look into a container that is being heated.

35. Do not place hot apparatus directly on the laboratory desk. Always use an insulated pad. Allow plenty of time for hot apparatus to cool before touching it.

**2. Write the prevalence statistical data of Sars cov2 ( covid19 ) around the globe . U can take help from** [**www.worldometer.com**](http://www.worldometer.com)

**Answer:**

 Countries Confirm Cases death

1. USA 3323328. 137093
2. Brazil 1810691. 70623
3. India 849823. 22687
4. Russia 720547. 11205
5. Peru. 319029. 11500
6. Chile 312029. 6881
7. Spain 300988. 34191
8. Mexico 289174. 34191
9. UK. 288953. 44798
10. Iran. 255117. 12635
11. South Africa 250687. 3860
12. Pakistan 246351. 5123
13. Italy 242827. 34945
14. Saudi Arabia. 229480. 2181
15. Turkey. 211981. 5344
16. Germany. 199750. 9132
17. Bangladesh. 181129. 2305
18. France. 170752. 30004
19. Colombia 140776. 4925
20. Canada. 107346. 8773
21. Qatar 103128. 146
22. Argentina 94060. 1787
23. China. 83587. 4634
24. Egypt 80235. 3702
25. Iraq. 75194. 3055
26. Sweden. 74898. 5526
27. Indonesia. 74018. 3535
28. Ecuadar 67209 5031
29. Belarus 64767. 459
30. Belgium 62469. 9782