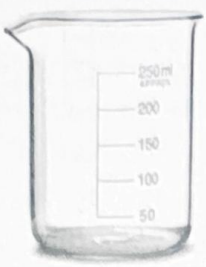
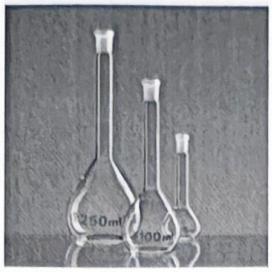
Science Lab I - Quiz I

1. Write the names of the following apparatus used (from (a) to (l)) in the lab: [1x12]


(a)


(b)

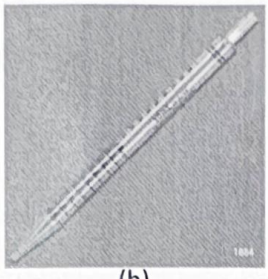

(c)


(d)

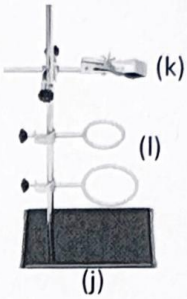

(e)


(f)


(g)


(h)


(i)


(k)

(l)

(j)

2. What types of apparels and shoes one must wear for working in chemical or bio-laboratory? [2]
3. How do you prepare an acid solution from a highly concentrated acid stock? [2]
4. What is the use of laboratory chemical/fume hood? [2]
5. How do you transport 250 mL or larger volume of chemicals in laboratory? [2]
6. Will you eat/consume the sucrose/dextrose kept in the lab? Justify your answer. [2]
7. Suppose you are measuring some chemical using weighing machine and you took some excess into the weighing plate. What will you do with the excess chemical then and why? [3]
8. If any chemicals by chance went into your eyes, what should you do? [3]
9. What do the following symbols signify?


(i)


(ii)


(iii)


(iv)


(v)


(vi)


(vii)


(viii)


(ix)


(x)

10. Can we store all the inorganic acid stocks in the same rack/place? Justify. [3]
11. What is the use of muffle furnace? [2]
12. What is the use of -20°C refrigerator? [2]
13. Name two instruments by which you can study the optical properties of liquid samples. [2]
14. State Ohm's law. [2]
15. How the magnetic field strength varies with number of turns of the coil of an electromagnet, current through the coil, potential difference across the coil? [4]
16. Convert: [3x3]
    a) 535 nm to Hz
    b) 3.6 GHz to μm
    c) 1280 cm^{-1} to Hz