

عطاء رقم ٥/ل/٢٠١٧
توريد وتركيب وتشغيل أجهزة ومواد مخبرية/ كلية الزراعة

Specification:-

First: Scientific and laboratory equipments:

1. Scientific Incubator For microbiology Lab:

- Use for microbiology lab to incubate bacterial plate culture (Petri Dish Agar media) using different incubation temperature from 65°C -100°C.
- It can control the internal oxygen.
- It can control both temperature and humidity inside the incubator.
- Big size with 1500 plate minimum capacity.
- Electronic digital screen to control both temperature and humidity.
- Internal Temperature Alarm.
- It may control carbon dioxide inside the cabinet.
- Work on power supply 220 volts.
- Prefer to be made of stainless steel specially the outside.
- Prefer to have many internal shelf or branch.
- Required Number: ٢.

2. Stomacher blender:

- Use for mixing peptone water solutions for different food samples in order to homogenate the microbial content in the plastic sterilized bags.
- It can control the speed.
- Electronic digital Screen.
- Prefer Stainless steel material specially the inside parts.
- Required Number: 1.

3. Vortex shaker: Mix liquid samples in their tubes 230V continuous /touch operation. In addition use for test tube and flask mixing liquid.

- Use for mixing and homogenate chemical solutions.
- In addition it can be used for mixing glass tubes or beakers.
- Power supply work on 220v.
- It can move or rotate continuously by touching.
- It can control the speed of shaking or agitation.
- Required Number: 1.



4. Magnetic Stirrer/hot plate:

- Lab hot plate electrical heat can reach up to 500 °C.
- Large white ceramic over stainless steel work surface.
- Use for boiling different liquid solutions.
- Use for boiling Media in Microbiology Lab.
- Easy to control speed and temperature.
- Ceramic Cover.
- It can mix liquids with a magnetic power.
- Required Number: **1**.

5. Warner- Bratzler Shear Force instrument:

- Use to measure meat tenderness.
- Easy to use, connect, and fixation.
- Work in a range of 220-240 volts.
- Electronic digital Screen.
- It can measure shear force in a different unit.
- Required Number: **1**.

Second: Scientific Materials and Other Micro-Laboratory Needs.

6. Anatomy Instruments for Bio-lab:

- Use for biology lab anatomy.
- Include seizers, and Scalpels, in different size. In addition all other anatomy instruments related animal tissues, and human anatomy instruments.
- Should be made of stainless steel material.
- Required Number: **2**.

7. Petri Dish Plates:

- Use for microbiology lab.
- Clean and clear with a good cover.
- Sterilized and perfectly closed.
- Size: 90*15MM.
- Required Number: **3500 plate**.



8. **Tissue culture tubes (Glass):**

- Large: **100 ml**. With a plastic screw tab: 300 tubes.
- Small: **50 ml**. With a plastic screw tab on it: 300 tubes.
- Glass test tube: 13*100mm: 500 test tube and without screw.

Scientific Material for Microbiology Lab.

9. **Mineral oil:**

- Colorless and odorless light mixtures of distillate of petroleum.
- This oil use in food safety research area.
- Dose not has color, taste or aroma.
- Mostly composed of saturated fatty acid (SFA).
- Required amount: 2 L.

10. **Frozen Bacterial Strains (frozen stocks in 10 % glycerol at -80 C) for:**

- **Amount required: One** vials, tubes or ampulla for each strain.
- **Required Number:** One from each strain number indicated below.

1- *Staphylococcus aureus* (ATCC 6538, ATCC 25923, ATCC 10390, and ATCC 29213)

Obtained from American Type Culture Collection or any other certified company.

- **Required:** 4 strains (one from each number above).

2- *Salmonella enterica* (S. Typhimurium, S. Newport, S. Kentucky, S. Oranienburg, and S. Montevideo).

- Any other certified company
- **Required:** 5 strains (one from each number above).

3- *Escherichia coli O157:H7* (ATCC 35150, ATCC 43894, ATCC 43895, WS 3062 and WS 3331). Obtained from American Type Culture Collection or any other certified company.

- **Required:** 5 strains (one from each number above).

4- *Listeria monocytogenes* (Scott A, H7969, H7596, H7762 and H7962; all serotype 4b).

Obtained from American Type Culture Collection or any other certified company.

- **Required:** 5 strains (one from each number above).



11. Kites(for microbiology Lab):

- Use for food safety and microbiology laboratory.
- 1- *Listera monocytogenss, Ecoli O17H:7* **detection kites** in food samples.
- 2- *Staphylococcus arues* **toxin detection** kits test.
- *Required number: One package from each type.*

Third: Instruments and Meat processing Equipments

12. Meat Mixer:

- **Electrical Mixer use for mixing food and meat.**
- Power 1800W, Voltage & Frequency 220-240v, 50-60HZ Jar Capacity 2 Litter.
- Prefer to be made of stainless steel material.
- Easy to clean and fix.
- Include some meat mixing accessories.