| Applicant must complete section **A-F** prior to use the lab facilities. Incomplete form will be returned to the applicant. Application process: Refer/ contact lab staff > fill up the application form> obtain lab verification > make a payment (if applicable) > obtain Supervisor approval (for student/ RA) > submit completed form to the lab staff > lab access registration (if applicable)/ sample submission. | | | |
| --- | --- | --- | --- |
| 1. **LABORATORY - Please tick (√);** | | | |
| * Biomaterial Research Lab (BRL) – Pn. Helen : 03-7967 6460 * Balai Ungku Aziz Research Lab (BUARL) – En. Rafiki : 03-7967 7450 * Craniofacial & Molecular Biology Research Lab (CMBRL) – Pn. Junaida: 03-7967 6461 | * Research Diagnostic Lab (RDL) – En. Muhamed Lahtif : 03-7967 6451 * Restorative & Regenerative (RRRL)/ Stem Cell (SCRL) and Thermal Characterization Research Lab (TCRL)- Pn. Nurul: 03-7967 6499 | | |
| 1. **APPLICANT INFORMATION** | | | |
| Applicant  (Full Name): | Position/ Designation | | : Undergraduate/ Postgraduate / Research Assistant / Academic staff.  Others (please state): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Department: | University/ Institution | | : |
| Active Telephone No.: | Email Address | | : |
| 1. **PROJECT INFORMATION** | | | |
| Research Topic/ Title/ Area/ Subject : | | | |
| Lab Work Duration (Examples: Jan 2023 - Dec 2024): | | | |
| Description/ List of lab services /work/ samples:  (attached separate list if insufficient column) | | | |
| 1. **LAB FEES / CHARGES** | | | |
| Refer lab staff prior to fill up this part. Please tick (√);   | **PAYMENT INFO** | | **RINGGIT MALAYSIA(RM)** | | --- | --- | --- | | * Common item | | : | | * Equipment | | : | | * Services | | : | | * \*Other (Please state): | | : | |  | **TOTAL** | :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |   \*No charges (Provide reason)/ Note (if any): | | Methods of payment - Please tick (√);   |  | **E- Payment/ Online Banking**: Make payment through https://epay.um.edu.my/ > login >register (new user)/ click UMCAS (UM staff/student)>Main > List of Payment > *Service > Service - Lab Test > Faculty of Dentistry.* Attached proof of payment with this form. | | --- | --- | |  | **Research Grant** (only applicable for UM applicant). Please attached money internal transfer statement with this form. Manual is accessible via > https://bit.ly/ummit | |  | **Purchase Order**: Request lab staff to provide quotation & invoice. | |  | **Cheque** to *Bendahari Universiti Malaya* |   Others: | |
| 1. **SUPPORTING DOCUMENTS** | | | |
| Please tick (√) if applicable;   * Copy of user ID/ matrix/ passport 1st page (international user ) * Proof of payment/ Quotation/ Invoice * Lab Safety Document Declaration (if applicable) * List of common item/equip/ services. Only attached selected page(s) * Supervisor signature on related documents (for student/ RA) * Others (Please state): | | | |
| 1. **ENDORSEMENT & APPROVAL** | | | |
| **APPLICANT CONFIRMATION**  Signature:  Date: | **SUPERVISOR/ PRINCIPAL INVESTIGATOR APPROVAL**  Signature:  Official Stamp:  Date: | | |
| **LAB COORDINATOR/ STAFF VERIFICATION**  Signature:  Official Stamp:  Date:  **Note (if any):** | **DEPUTY DEAN (RESEARCH), FACULTY OF DENTISTRY, UM APPROVAL**  Signature:  Official Stamp:  Date: | | |

cc. Finance Unit, Faculty of Dentistry, UM

**LAB SAFETY FORM**

**CRANIOFACIAL & MOLECULAR BIOLOGY RESEARCH LABORATORY (CMBRL)**

Level 7, Dental Specialist & Research Tower, Faculty of Dentistry, University of Malaya, 50603 Kuala Lumpur, Malaysia

**FORM B:** This form only applicable for the lab user who conduct their research work in the lab. The lab user must sign this form to ensure you understand and follow the lab safety rules prior to use the lab facilities;

| **Lab Safety Rules**    To the lab user: You are required to read, understand and implement the safety precautions indicated in your laboratory manual or laboratory handouts, which are summarized below. Your signature on the attached sheet indicates your absolute willingness to abide by these precautions while you are in the laboratory.     1. Turn off lights, air conditioner (except Tissue Culture Room 1 & 2) and all equipment before leaving the laboratory 2. No outsiders are allowed into the laboratory 3. Maintain cleanliness of work area and laboratory 4. Ensure all windows are shut and doors locked before leaving the laboratory 5. Lab coats and gloves are worn only in the lab. 6. Eating and drinking strictly prohibited 7. Open-toed footwear not recommended 8. Never pipette by mouth 9. Always read Safety Data Sheet and labels on chemicals before opening them 10. After using needle, do not recap, bend or break it: remove it from the syringe or manupulate it in any way. Promptly placed in the sharps bin. 11. Always dispose of broken glass in a sharps bin and not in a general waste bin 12. Always remove contaminated gloves in yellow bin before leaving the laboratory 13. Always wash your hands after removing gloves, before leaving the work area, and before eating, drinking, smoking, or applying cosmetics 14. Do not wear gloves when opening doors, answering phones or using computer 15. Clean up all surfaces after you, especially in laminar / fume hoods 16. Do NOT store chemicals on desks, laboratory bench tops, floors, fume hoods or in aisles 17. Dispose of all chemical waste properly. Never mix chemicals in sink drains 18. Clean up spills immediately 19. Perform all procedures carefully to minimize the creation of splashes or aerosols 20. Working alone is not encouraged 21. Always disinfect work surfaces when you are finish with an experiment   I have read carefully and understand all of the safety rules contained on this sheet. I also agree to read all rules for specific exercises contained in the laboratory manual or laboratory handouts required for this course. I recognize that it is my responsibility to obey them faithfully.    I realize that all chemicals are potentially dangerous; therefore I will read the Safety Data Sheet and handling them with care. If I am unsure of the potential hazards of any chemical, I will discuss this with my supervisor prior to using the chemical in question.    I understand that I have to make sure my workbenches, working area and storage cabinet are always neat and clean. I am also aware the location of the eye wash, emergency shower, fire extinguisher, first aid kit and spill kit.  I, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Full name) declare that I have understood the safety guideline and I will ensure that my work is carried out in a safe manner on a safety environment in compliance with regulations as laid down by the Faculty and University. In the event of any accident which is due to my negligence/ non-compliance to safety regulations and procedures, I will indemnify the University on all liabilities.    Signature : Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| --- |

**GUIDANCE ON MINIMISING EXPOSURE TO COVID-19 AT LABORATORY**

Following the novel coronavirus disease 2019 (COVID-2019) pandemic, we have to put in place a number of measures to fight the spread of the disease. We must play a role in order to protect laboratory staff and researchers/students in the laboratory. We should carry out only essential work for the time being; it may be possible to postpone some work to when the risk is lower. We should ensure that only person who are essential to the job are present at the laboratory and minimise the presence of third parties.

The implementation of safe work practices to limit exposure to COVID-19 at work requires first assessing the risks, and then implementing the hierarchy of controls. This means putting in place control measures to first eliminate the risk and if this is not possible, minimise worker exposure. Start first with collective measures and if necessary supplement them with individual measures, such as personal protective equipment (PPE). Below are some control measures to be taken:

1. **Engineering Control**
2. Increasing ventilation rates in the work environment. Ensure the ventilation system is functioning.
3. Try to supply as much outside air as possible by simply open windows to let in out door air.
4. **Administrative Control**
5. Laboratory staff should conduct HIRARC – Hazard Identification, Risk Assessment and Risk Control.
6. All laboratory staff and researchers/students should do temperature screening and symptoms assessment at the screening counter before going to the laboratory.
7. Avoid touching eyes, nose and mouth with unwashed hands.
8. Cover mouth and nose with a tissue or sleeve when coughing or sneezing and discard used tissue in a closed bin.
9. Consider a no handshaking policy.
10. Avoid close contact with people who are sick.
11. Wash hand often with soap and water for at least 20 seconds or sanitizer. A poster on how to handwash and handrub to be posted near the sink.
12. Assign a door for entry only and a door for exit only in the laboratory. Keep both doors open at all times to avoid contamination on the door handle. A notice to be posted on each door.
13. Researchers/students should disinfect high-touch surfaces frequently such as equipment, workstation, drawers and cabinets in the laboratory. 70% alcohol can be used as disinfectant.
14. Work environment and surfaces (logbook, pen, faucets and door handle) need to be cleaned and disinfected using 70% alcohol by laboratory staff on a regular basis or at least twice daily.
15. Establishing alternating days for each staff to reduce the total number of laboratory staff at a given time and to maintain physical distance from one another in the office.
16. Researchers/students to be allowed to come everyday if necessary because cell culture work is often daily. Only 6 students/RAs are still active doing research in the laboratory. Therefore, it is possible to ensure physical distance of more than 1-meter is maintained at all times by :
17. Only one researcher / student is allowed in the laboratory rooms at a time. A notice to be posted on each door of the laboratory room.
18. Central area of the laboratory:
19. Keeping one workstation/workbench empty between researchers/students at a time.
20. The path near the workbenches will be divided into two sections: one to the workbenches only and one to the Pre-PCR Room, RT-PCR Room, Preparation Room and exit door only.

\*Refer Layout Plan CMBRL laboratory.

1. Keeping one desk empty between researcher/students and between staff members in the office. Empty desk need to be labelled.

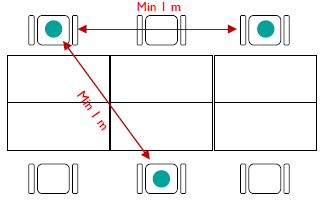


Figure 1 : Desk space distancing.

1. Display posters promoting respiratory hygiene and other control measures such as offering guidance from occupational health and safety officers, briefing at meetings and information on the intranet etc.
2. Providing workers with up-to-date education and training on COVID-19 risk factors and protective behaviors (e.g., cough etiquette and care of PPE).
3. **Personal Protective Equipment (PPE)**
4. All laboratory staff to use appropriate protective equipment especially where social distancing is not possible. An appropriate mask should be worn in all public places and during work.
5. Discard PPE in yellow bin (biohazard bin).
6. All types of PPE must be:

* Selected based upon the hazard to the worker.
* Properly fitted and periodically refitted, as applicable (e.g., respirators).
* Consistently and properly worn when required.
* Regularly inspected, maintained, and replaced, as necessary.
* Properly removed, cleaned, and stored or disposed of, as applicable, to avoid contamination of self, others, or the environment.

This guideline may be used as a basis for managing laboratory staff and researchers/students during this period of time. Employers, researchers and laboratory staff are advised to keep up to date with the latest developments and advice issued by the Ministry of Health, DOSH and OSHE UM.

Prepared by;

Pn. Junaida @ Maimunah Binti Hassan Basari

Science Officer

Cranofacial & Molecular Biology Research Laboratory

Faculty of Dentistry.

Approved by;

Prof. Dr. Ian Paterson

Laboratory Coordinator

Cranofacial & Molecular Biology Research Laboratory

Faculty of Dentistry.

Date: 7 May 2020

**REFERENCES:**

1. Proposal for Return to Work after the Movement Control Order (MCO) for COVID-19 infection. Department of Social and Preventive Medicine, Fac. Of Medicine UM. 25 April 2020.
2. COVID-19 Management Guidelines for Workplaces. Ministry of Health Malaysia. Available at: <https://www.moh.gov.my/moh/resources/Penerbitan/Garis%20Panduan/COVID19/Annex_25_COVID_guide_for_workplaces_22032020.pdf> (Accessed 5 May 2020).
3. Office & Workplace Health & Safety Best Practices in the time of COVID-19 –a guide. Available at: www.thinkcity.com.my. 1 May 2020.
4. Guidance on preparing workplaces for COVID-19. OSHA (US Department of labor). Available at: [www.osha.gov](http://www.osha.gov). (Assessed on 6 May 2020)
5. Checklist back to work. FECC European Association of Chemical Distributors. Available at: <https://www.fecc.org/covid-19/>. (Accessed 6 May 2020).
6. Getting your workplace ready for COVID-19. WHO. Available at: <https://www.who.int/docs/default-source/coronaviruse/getting-workplace-ready-for-covid-19.pdf>. 3 March 2020.

**COMMON ITEM**

* Common item are divided into five (5) sections. Please refer respective lab staff before you fill up this form.
* To reduce paper usage, please attached pages that contain items/ equipment/ services that related to your project.
* Unrelated items/ equipment/ services may be deleted / removed from this table.

**[Item 1]: Common Glassware**

The charges for following item;

**i)** **RM200/application:** The item is RETURNABLE to the lab after the usage

**ii) Charge price given:** The item NOT returnable to the lab

| **REFERENCE** | | | | **TO BE FILLED BY THE LAB USER** | **TO BE CHECKED BY LAB STAFF** |
| --- | --- | --- | --- | --- | --- |
| **No** | **Description** | **Size** | **Price (RM)/ Quantities** | **Quantities** | **Charge (RM)** |
|  | Common Glasswares (Returnable):  Beaker, measuring cylinder, conical flask, schott bottle, volumetric flask, glass/plastic funnel, thermometer. | NA | RM200 / year | \_\_\_year |  |
|  | Beaker | a) 50 ml | RM30/ 1 box (10 unit) | \_\_\_unit |  |
| b) 100 ml | RM30/ 1 box (10 unit) | \_\_\_unit |  |
| c) 250 ml | RM30/ 1 box (10 unit) | \_\_\_unit |  |
| d) 500 ml | RM40/ 1 box (10 unit) | \_\_\_unit |  |
| e) 1000 ml | RM250/ 1 box (10 unit) | \_\_\_unit |  |
| f) 2000 ml | RM32/ 1 unit | \_\_\_unit |  |
|  | Conical Flask | a) 250 ml | RM25/ 1 unit | \_\_\_unit |  |
| b) 500 ml | RM25/ 1 unit | \_\_\_unit |  |
| c) 1000 ml | RM30/ 1 unit | \_\_\_unit |  |
|  | Filter Funnel | a) 60 mm Dia. | RM23/ 1 unit | \_\_\_unit |  |
| b) 150 mm Dia. | RM28/ 1 unit | \_\_\_unit |  |
|  | Measuring Cylinder | a) 10 ml | RM22/ 1 unit | \_\_\_unit |  |
| b) 250 ml | RM23/ 1 unit | \_\_\_unit |  |
| c) 500 ml | RM30/ 1 unit | \_\_\_unit |  |
| d) 1L | RM30/ 1 unit | \_\_\_unit |  |
|  | Reagent Bottles with  Glass Stopper | 250 ml | RM120/ 1 box (10 unit) | \_\_\_unit |  |
|  | \*Schott Lab Bottles,  Clear glass, Blue PPN Screw Cap.  (Duran Brand) | a) 50 ml | RM180/ 1box (10 pcs) | \_\_\_pcs |  |
| b) 100 ml | RM139/ 1box(10 pcs) | \_\_\_pcs |  |
| c) 250 ml | RM145/ 1 box(10 pcs) | \_\_\_pcs |  |
| d) 500 ml | RM160/ 1 box(10 pcs) | \_\_\_pcs |  |
| e) 1L | RM90/ 2 unit | \_\_\_unit |  |
|  | \*Schott Lab Bottles,  (Amber)  (Duran Brand) | 500ml | RM50/ 1 unit | \_\_\_unit |  |
|  | Test Tubes, Boro. Glass,  Medium Wall, Rimless.  (Pyrex-Iwaki Brand ) | (16 x 100) mm | RM66/ 1 box(50 pcs) | \_\_\_pcs |  |
|  | Dissecting Forcep | 1. blunt end 150mm | RM34/ 2 unit | \_\_\_unit |  |
| 1. sharp end 150mm | RM34/ 2 unit | \_\_\_unit |  |
| 1. curve end 150mm | RM34/ 2 unit | \_\_\_unit |  |
|  | Mercury Thermometer | From range -20 - 110°C | RM18/ 1 unit | \_\_\_unit |  |
|  | \*Digital Timer, Alla France | 3 Function: up, down, clock | RM50/ 1 unit | \_\_\_unit |  |
|  | \*Coplin Jar  Glass body, glass non-screw cap,  (Superior GERMANY) | For 10 pcs slides | RM425/ 5 unit | \_\_\_unit |  |
|  | Test tube rack,  (HmbG China) | For 18mm max diameter | RM45/ 1 unit | \_\_\_unit |  |
|  | \*Microcentrifuge tube rack | 1. 1.5 - 2.0 ml | RM50/ 1 unit | \_\_\_unit |  |
| 1. 0.2 - 0.5 ml | RM50/ 1 unit | \_\_\_unit |  |
|  | Pasteur pipette (glass)  (HmbG M’sia) | 150 mm | RM38/ 1 box (250 pcs) | \_\_\_pcs |  |
|  | Rubber bulb  (HmbG China) | for glass Pasteur pipette | RM8/ 1 unit | \_\_\_unit |  |
|  | Graduated pipette (glass)  (Pyrex-Iwaki Brand) | 10 ml | RM13/ 2 unit | \_\_\_unit |  |
|  | Pi-pump for graduated pipette | for pipette up to 10 ml | RM21/ 1 unit | \_\_\_unit |  |
|  | Spatula Spoon End, SS. | 150 mm | RM90/ 10 unit | \_\_\_unit |  |
| **TOTAL** | | | | |  |

\*charge price given

**[Item 2]: Common Chemicals**

Charges are according to the price & quantity of the chemicals used/ requested by the lab user.

| Calculation Formula: | : (Price/ unit) x (quantity required by lab user) = RM Charge |
| --- | --- |
| Example :  Ethanol 95 % (Alcohol): | : (RM60.00 / 2.5L) x 1.0 L = RM24.00 |

| **REFERENCE** | | | **TO BE FILLED BY THE LAB USER** | **TO BE CHECKED BY LAB STAFF** |
| --- | --- | --- | --- | --- |
| **No** | **Description** | **Price (RM)/ Quantities (unit)** | **Quantities - unit** | **Charge (RM)** |
|  | **EXAMPLE:** Ethanol 95 % (Alcohol)  Denatured, AR **C2H6O** | RM60/ 1 bottle (2.5 L) | 1.0 L | **24.00** |
|  | Acetic Acid (Glacial,) AR  **C2H4O2** | RM35/ 1 bottle(2.5L) | \_\_\_L |  |
|  | Acetone, AR  **C3H6O** | RM80/ 1 bottle(2.5 L) | \_\_\_L |  |
|  | Acetonitrile, AR  **C2H3N** | RM160/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Ammonium Persulfate, AR  **H8N2O8S2** | RM35/ 1 unit(1 kg) | \_\_\_kg |  |
|  | Ammonium Persulfate for electrophoresis, 98%, 100 g  **(NH4)2S2O8**  ( Sigma Brand ) | RM268/1 unit(100g) | \_\_\_g |  |
|  | Agarose, Type A | RM1, 590/ 1 unit(100 g) | \_\_\_g |  |
|  | Boric Acid,AR  **H8BO3** | RM32/ 1 unit (1 kg) | \_\_\_kg |  |
|  | Bromophenol Blue, ACS Reagent,  **C19H10Br4O5S**  (Aldrich Brand ) | RM120/ 1 unit (5 g) | \_\_\_g |  |
|  | Buffer solution: | |  |  |
| a) pH 2 | RM30/ 1 unit (500 ml) | \_\_\_ml |  |
| b) pH 4 | RM30/ 1 unit (500 ml) | \_\_\_ml |  |
| c) pH 7 | RM30/ 1 unit (500 ml) | \_\_\_ml |  |
| c) pH 10 | RM30/ 1 unit (500 ml) | \_\_\_ml |  |
|  | Calcium Chloride dihydrate, AR,  Dehydrate **CaC12.2H2O** | RM40/ 1 unit (1 kg) | \_\_\_kg |  |
|  | Chloramine T  **C7H7CINNaO2S.3H2O** | RM380/ 1 unit (250 g) | \_\_\_g |  |
|  | Chloroform AR  **CHCl3** | RM65/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Citric Acid anhydrous  **C6H8O7** | RM220/1 unit(100 g) | \_\_\_g |  |
|  | Casein, CP | RM159/ 1 unit(500 g) | \_\_\_g |  |
|  | Dipentene,Technical Grade.  **C10H16**  (Aldrich Brand) | RM172/ 1 bottle (1.0 L) | \_\_\_ L |  |
|  | EDTA, disodium salts, AR  **C10H16N2O8** | RM110/ 1 unit (500 g) | \_\_\_g |  |
|  | Ethanediol or Ethylene glycol  **CH2(OH)CH2OH** or  **C2H6O2** | RM140/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Ethanol 95 %  denatured, AR **C2H6O** | RM98/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Ethanol Absolute  undenatured ,AR  **C2H6O** | RM159/1 bottle(2.5 L) | \_\_\_ L |  |
|  | Ethidium Bromide solution , BioReagent, For molecular biology  **C21H20BrN3**  (Sigma Brand) | RM342/ 1 unit (10 ml) | \_\_\_ml |  |
|  | Formaldehyde 37 %, AR  **CH2O** | RM85/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Glycerol, Anhydrous, AR  **C3H8O3** | RM65/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Guanidine Hydrochloride.  **NH2C(=NH)NH2.HCl** or **CH5N3.HCl**  (Sigma Brand) | RM1940/ 1 unit (1 kg) | \_\_\_kg |  |
|  | Concentrated Hydrochloric Acid, AR,  (Concentrated) **HCl** | RM42/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | n-Hexane 99 %, AR **C6H14** | RM49/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Methanol, AR  **CH4O** | RM38/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | 2-Mercapto Ethanol, 99 %  **HSCH2CH2OH**  (Aldrich Brand) | RM180/ 1 bottle (100 ml) | \_\_\_ml |  |
|  | Methylene Blue  **C16H18CIN3S.3H2O** | RM430/ 1 unit (25 g) | \_\_\_ g |  |
|  | Nitric Acid, 65 %, AR,  **HNO3** | RM40/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Phosphate Buffered Saline (PBS) Tablets.  (Sigma Brand) | RM566/ 1 box (50pcs) | \_\_\_ pcs |  |
|  | PBS, BioReagent, 10x concentrate for cell Culture & molecular biology  (Sigma-Aldrich Brand ) | RM650 / 1 bottle(1 L) | \_\_\_ L |  |
|  | 10X PBS Liquid Concentrate, 4L | RM191/ 1 bottle (4L) | \_\_\_ L |  |
|  | 1-Propanol ,AR  **C3H8O** | RM200/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | 2-Propanol, AR  **(CH3)2 CHOH** | RM215/ 1 bottle (2.5lit) | \_\_\_lit |  |
|  | Potassium Dichromate,  ACS Reagent, 99%  **K2CR2O7**  (Sigma-Aldrich Brand) | RM468/ 1 unit (100 g) | \_\_\_g |  |
|  | Sodium Bicarbonate, AR  **NaHCO3** | RM30/ 1 unit (1 kg) | \_\_\_kg |  |
|  | Sodium Hydroxide  (pellets), AR  **NaOH** | RM40/ 1 unit (1 kg) | \_\_\_kg |  |
|  | Sodium Chloride, AR  **NaCl** | RM32/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Sodium Chloride Irrigation Solution  0.9 % | RM15/ 1 bottle (1.0 L) | \_\_\_ L |  |
|  | Sodium Dodecyl Sulphate, CP  **C12H25NaO4S** | RM34/ 1 unit (250 g) | \_\_\_g |  |
|  | Sodium Phosphate dibasic  dodecahydrate  **Na2HPO4.12H2O** | RM40/ 1 unit (1 kg) | \_\_\_kg |  |
|  | Sodium Phosphate dibasic dehydrate, for molecular biology 99%.  **Na2HPO4.2H2O** | RM700/ 1 unit (1 kg) | \_\_\_kg |  |
|  | Sucrose, ACS Reagent  **C12H22O11**  (Sigma-Aldrich) | RM315/ 1 unit (500 g) | \_\_\_g |  |
|  | SSC Buffer Substance, BioReagent,  Powder Blend,  (Sigma Brand) | RM105/ 1 bottle (100 ml) | \_\_\_ml |  |
|  | TAE (Tris Acetate-EDTA) Buffer,  (Sigma-Aldrich Brand) | RM255/ 1 bottle (1.0 L) | \_\_\_ L |  |
|  | TBE (Tris Borate-EDTA) Buffer, 10x  (Sigma-Aldrich Brand) | RM430/ 1 bottle (1 L) | \_\_\_ L |  |
|  | TE (Tris-EDTA) Buffer, 1x   1. pH 7.4 (Fluka 93302) | RM190/ 1 bottle (100 ml) | \_\_\_ml |  |
| 1. pH 8.0 (Fluka 93283) | RM190/ 1 bottle (100 ml) | \_\_\_ml |  |
|  | TEMED, BioReagent, 99 %  (Sigma Brand) | RM215/ 1 bottle (25 ml) | \_\_\_ml |  |
|  | Tris, ACS Reagent ,99.8 %  (Aldrich Brand ) | RM500/ 1 unit (500 g) | \_\_\_g |  |
|  | Xylene, AR  **C8H10** | RM240/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Sodium Hypochloride or Sodium Hypochlorite 10 % available  Chlorine, CP, **NaClO**  (R&M Brand) | RM45/ 1 bottle (2.5 L) | \_\_\_ L |  |
|  | Yeast Peptone Dextrose (YPD) :  a) YPD Agar | RM750/ 1 unit (500 g) | \_\_\_g |  |
| b) YPD Broth  (BD Difco Brand) | RM320/ 1 unit (500 g) | \_\_\_g |  |
|  | Potassium Acetate, AR  **CH3CO2K** | RM50/ 1 unit (500 g) | \_\_\_g |  |
|  | Micromount ® Mounting medium  (Surgipath brand) | RM513/ 1 case -12 bottles (118ml/bottle) | \_\_\_bottles |  |
|  | OCT Compound Embedding Medium for Cryosection  (LEICA Brand) | RM600/ 1 pack-6 bottles(125ml/bottle) | \_\_\_bottles |  |
|  | Haematoxylin  (Surgipath brand) | RM245/ 1 bottle (3.8 L) | \_\_\_ L |  |
|  | Eosin  (Surgipath brand) | RM136/ 1 bottle (3.8 L) | \_\_\_ L |  |
|  | RNase Zap solution | RM292/ 1 bottle (250ml) | \_\_\_ml |  |
|  | Silica Gel (1 kg) | RM80/ 1 unit | \_\_\_unit |  |
| **TOTAL** | | | |  |

**[Item 3]: Common Consumables**

Charges are according to the price & quantity of the consumables item used/ requested by the lab user.

| Calculation Formula: | : (Price / unit) x (quantity required by lab user) = RM Charge |
| --- | --- |
| Example :  Plastic Petri Dish (90mm): | : (RM115.00 / 500unit) x 100unit = RM23.00 |

| **REFERENCE** | | | | | | **TO BE FILLED BY THE LAB USER** | | | **TO BE CHECKED BY LAB STAFF** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Description** | | | | **Price (RM)/ Quantities (unit)** | **Quantities-unit** | | | **Charge (RM)** |
|  | **EXAMPLE:** Plastic Petri Dish (90mm) | | | | RM115/ 1 box (500 unit) | 100unit | | | **23.00** |
|  | Mild Foaming Handwash, antibacterial (refill for dispenser) | | | | RM 258 / 1box (6 bottle of 1L) | \_\_\_\_\_\_\_ L | | |  |
|  | Instant sanitizer (refill for dispenser) | | | | RM 330 / 1box (6 bottle of 1L) | \_\_\_\_\_\_\_ L | | |  |
|  | Face Mask,  (3-Ply,Tied-On) | | | | RM30/ 1 box(50 pcs) | \_\_\_\_\_\_ pcs | | |  |
|  | C-Fold Hand Paper Towel,  Fresh Pulp  (SCOTT Brand)  (ConV Brand) | | | | RM10.50/ box(180 pcs ) | \_\_\_\_\_\_ pcs | | |  |
|  | Latex Gloves, Powder Free  (Gred A) | | | | a) Extra Small (XS)  RM25/ box (100 pcs) | \_\_\_\_\_\_\_pcs | | |  |
| b) Small (S)  RM25/ box (100 pcs) | \_\_\_\_\_\_\_pcs | | |
| c) Medium (M)  RM25/ box (100 pcs) | \_\_\_\_\_\_\_pcs | | |  |
| d) Large (L)  RM25/box (100 pcs) | \_\_\_\_\_\_\_pcs | | |  |
|  | Filter Paper , | | Type/ Size | | a) RM50.00/ 1 box (100 pcs) | \_\_\_\_\_\_\_pcs | | |  |
| No.1,125 mm | |
| No.1,270 mm | | b) RM215/ 1 box(100 pcs) | \_\_\_\_\_\_\_pcs | | |  |
|  | PCR Tubes, PP, Clear | | (Axygen Brand) | | RM70/ 1 pack (1.5 ml x 500 pcs) | \_\_\_\_\_\_\_pcs | | |  |
| (Eppendorf Brand) | | RM230/ 1 pack (1.5 ml x 500 pcs) | \_\_\_\_\_\_\_pcs | | |  |
|  | PCR Tubes,  Thin Wall, Flat Cap,  Clear | | Axygen Brand | |  |  | | |  |
| a) RM205/1 pack(0.2 ml x 1,000 pcs) | \_\_\_\_\_\_\_pcs | | |
| b) RM190/1 pack(0.5 ml x1,000 pcs) | \_\_\_\_\_\_\_pcs | | |  |
| Eppendorf Brand | |  |  | | |  |
| a) RM380/1 pack(0.2 ml x1,000 pcs) | \_\_\_\_\_\_\_pcs | | |
|  |
| b) RM380/1 pack (0.5 ml x1,000 pcs) | \_\_\_\_\_\_\_pcs | | |  |
|  | Disposable Pipette Tips (Blue Tips) | | Axygen Brand: RM128/ 1 pack (1,000 pcs) | | a) 100 – 1000 µl | | \_\_\_\_\_\_pcs | |  |
| b) 0.1 – 1.0) ml | | \_\_\_\_\_\_pcs | |  |
| Eppendorf : RM230/1 pack (1000pcs) | | a) 100 – 1000 µl | | \_\_\_\_\_\_pcs | |  |
| b) 0.1 – 1.0) ml | | \_\_\_\_\_\_pcs | |  |
|  | Disposable Pipette  Tips  (Yellow Tips) | | Axygen Brand RM140/1 pack(1,000 pcs) | | a) 2 – 200 µl | | \_\_\_\_\_\_pcs | |  |
| b) 0.002 – 0.2ml | | \_\_\_\_\_\_pcs | |  |
| Eppendorf :  RM230/1 pack(1,000 pcs) | | a) 2 – 200 µl | | \_\_\_\_\_\_pcs | |  |
| b) 0.002 – 0.2ml | | \_\_\_\_\_\_pcs | |  |
|  | Disposable Pipette Tips  (Crystal Tips or White Tips) | | (Axygen Brand)  RM128/1 pack (1,000 pcs) | | a) 0.1 – 10 µl | | \_\_\_\_\_\_pcs | |  |
| (Eppendorf) RM278 / 1 pack (1,000 pcs) | | a) 0.1 – 10 µl | | \_\_\_\_\_\_pcs | |  |
| (7M Brand) RM40/ 1 pack (1,000 pcs) | | 0.5 – 10 µl | | \_\_\_\_\_\_pcs | |  |
|  | Disposable Filter Pipette Tips | | RM57/ box (96 pcs) | | 10 µl | | | \_\_\_\_\_\_box |  |
| RM57 / box (96 pcs) | | 200 µl | | | \_\_\_\_\_\_box |  |
| RM58/ box (100 pcs) | | 1000 µl | | | \_\_\_\_\_\_box |  |
|  | Kimwipes (114 x 213 mm) | | | | RM34/ 1 box (280 pcs) | | \_\_\_\_\_\_pcs | |  |
|  | Autoclave Tape - 3 M Brand  (9 mm x 50 m) | | | | RM80/ 1 unit | | \_\_\_\_\_\_unit | |  |
|  | Sterilization Flat Reel (Wipak Brand) | | Size | | a) RM240/ 1 unit | | \_\_\_\_\_\_unit | |  |
| 200x200 mm | |
| 75x200 mm | | b) RM210/ 1 unit | | \_\_\_\_\_\_unit | |  |
|  | Aluminium Foil - Diamond Brand (37.5 sq. feet) | | | | RM21.80/ 1 unit | | \_\_\_\_\_\_unit | |  |
|  | Type V (High Glossy )  Film Paper  UPP-110HG - Sony Brand (110 mm x 18 m) | | | | RM790/ 1 box (10 rolls) | | \_\_\_\_\_\_roll | |  |
|  | Disposable Cotton  Swab. Single Packed Sterile. | | | | RM248/ 1 box(1,000 pcs) | | \_\_\_\_\_\_pcs | |  |
|  | Parafilm M (4 in. x 125 ft.) | | | | RM199/ 1 roll | | \_\_\_\_\_\_roll | |  |
|  | Cell Culture Flask,  PS, Canted Neck, Non-Filter Screw Cap - Nunc Brand ( 25 cm.sq) | | | | RM865/ / 1 box(1000 pcs) | | \_\_\_\_\_\_pcs | |  |
|  | Micro Test Plates, PS, 96 wells Flat Bottom, with Lid.  (Nunc Brand) | | | | RM865/ 1 box(1000 pcs) | | \_\_\_\_\_\_pcs | |  |
|  | Syringe Filter,  30 mm. diameter,  Cellulose Acetate,  Single Packed Sterile.  (Membrene-Solution Brand) | | | | a) RM490/ 1 box (0.20 mm x100 pcs) | | \_\_\_\_\_\_pcs | |  |
| b) RM490/1 box (0.45 mm x100 pcs) | | \_\_\_\_\_\_pcs | |  |
|  | Petri Dish | Type & Size | | | b) RM332/ 1 box (500 unit) | | \_\_\_\_\_\_unit | |  |
| Plastic: 90 mm dia. | | |
|  | Microscope Slides, Clear,  Ground Edges, Frosted End.- Sail Brand (26 x 76 x 1) mm | | | | RM6.80/ 1 box (72 pcs ) | | \_\_\_\_\_\_box | |  |
|  | Microscope slide box | | | | RM35/ 1 unit (100 slides) | | \_\_\_\_\_unit | |  |
|  | Polysine microslides, Menzel adhesion, glass grounded edges (76x26 mm) | | | | RM95/ 1 box (72 pcs) | | \_\_\_\_\_\_box | |  |
|  | High Profile Disposable Microtome blades  (LEICA 818) | | | | RM370/ 1 box (50 pcs) | | \_\_\_\_\_\_pcs | |  |
|  | Micro cover glass | | | Size |  | |  | |  |
| 24x24 mm | RM150/ 1 box (100 pcs) | | \_\_\_\_\_\_ box | |  |
| 24x32mm | RM160/ 1 box (100pcs) | | \_\_\_\_\_\_ box | |  |
| 24x40 mm | RM170/ 1 box(100 pcs) | | \_\_\_\_\_\_ box | |  |
|  | Micro Slides (Silane Coating) | | | | RM185/ 1 box(100 pcs) | | \_\_\_\_\_\_ box | |  |
|  | Gauze | | | | RM90/ 1 roll (91 meter) | | \_\_\_\_\_\_ meters | |  |
|  | Paraplast Plus Tissue Embedding Medium | | | | RM224/ 1 box(8 bags) | | \_\_\_\_\_\_ box | |  |
|  | Falcon tube  (BD brand) | | | | RM465/1 case (15 ml x 500 pcs) | | \_\_\_\_\_\_pcs | |  |
|  | Surgipath Snowcoat Slides.  White 1.0mm | | | | RM59/box (72pcs) | | \_\_\_\_\_\_ box | |  |
|  | Fisherbrand Superfrost  Excell Microscope Slides.  Regular corners, adhesion surface coating | | | | RM344/pack/ 144pcs | | \_\_\_\_\_\_ box | |  |
| **TOTAL** | | | | | | | | |  |

**[Item 4]: Common Consumables for Grinding & Polisher (Biomaterial Lab)**

Charges are according to the price & quantity of the consumables item used/ requested by the lab user.

| Calculation Formula: | : (Price / unit) x (quantity required by lab user) = RM Charge |
| --- | --- |
| Example:  Sand paper (Grid 60) | : RM980.00/100pcs x 50pcs =RM490.00 |

| **REFERENCE** | | | | | **TO BE FILLED BY THE LAB USER** | **TO BE CHECKED BY LAB STAFF** |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Description** | | | **Price (RM)/ Quantities (unit)** | **Quantities-unit** | **Charge (RM)** |
|  | **Example: Sand Paper (Grid 60)** | | | RM980/1 pack (100 pcs) | 50pcs | 490.00 |
|  | Alumina Suspension  a) 0.05 µm | | | RM500/1 bottle (950ml) | \_\_\_\_\_ml |  |
|  | Diamond Suspensions, Water Based: | | Size | RM430/1 bottle (240ml) | \_\_\_\_\_\_ml |  |
| a) 1 µm |
| b) 3 um | RM550/1 bottle (240ml) | \_\_\_\_\_\_ml |  |
|  | | c) 6 um | RM730/1 bottle (240ml) | \_\_\_\_\_\_ml |  |
| d) 9 um | RM850/1 bottle (240ml) | \_\_\_\_\_\_ml |  |
|  | Polishing Cloths, 8 in. dia. | Type | | RM105/1 pack (1 pcs) | \_\_\_pcs |  |
| a) diamond (Buehler-Verdutex Brand) | |
| b) alumina  ( Buehler-Chemomet Brand) | | \_\_\_pcs |  |
|  | Sand Paper, SiC (USA Standards)  8 in. dia. Plain backed. | Type | | RM980/1 pack (100 pcs) | \_\_\_pcs |  |
| a) Grid 60 | |
| b) Grid 120 | | RM730/1 pack (100 pcs) | \_\_\_pcs |  |
| c) Grid 240 | | RM670/ 1 pack (100 pcs) | \_\_\_pcs |
| d) Grid 400 | | RM670/1 pack (100 pcs) | \_\_\_pcs |  |
| e) Grid 600 | | RM1,060/1 pack (100 pcs) | \_\_\_pcs |  |
| f) Grid 800 | | RM1,060/1 pack (100 pcs) | \_\_\_pcs |  |
| g) Grid 1,200 | | RM1,060/ 1 pack (100 pcs) | \_\_\_pcs |  |
|  | Diamond Wafering ½” Blade, Arbor with dressing stick | 1. 6” blade 2. 5” blade | | RM2,500/1 pack (1 pcs)  RM2,300/1 pack (1 pcs) | \_\_\_pcs |  |
| **TOTAL** | | | | |  |  |

**[Item 5]: Common Consumables for Automated DNA Extraction**

**QIAcube(CMBRL)**

Charges are according to the price & quantity of the consumables item used/ requested by the lab user.

| Calculation Formula: | : (Price / unit) x (quantity required by lab user) = RM Charge |
| --- | --- |
| Example:  Filter –tips 200 µl | : RM450.00/8 boxes x 1 box =RM56.25 |
|  |  |

| **REFERENCE** | | | **TO BE FILLED BY THE LAB USER** | **TO BE CHECKED BY LAB STAFF** |
| --- | --- | --- | --- | --- |
| **No.** | **Description** | **Price (RM)/ Quantities (unit)** | **Quantities-unit** | **Charge (RM)** |
|  | **Example: Filter –tips 200 µl** | RM450/8 box (1024 pcs) | 1 box | 56.25 |
|  | Filter-Tips   1. 200 µl 2. 1000 µl | RM450/8 box (1024 pcs)  RM460/8 box (1024 pcs) | \_\_\_\_\_box  \_\_\_\_\_box |  |
|  | Sample Tubes RB (2ml)  – for bacterial pellet /plaque | RM500/1000 pcs | \_\_\_\_\_pcs |  |
|  | Sample Tubes CB (2ml)  –for blood  Screwcap neutral | RM300/1000 pcs | \_\_\_\_\_pcs |  |
|  | Rotor adapters & Elution tube | RM200/ 240 pcs | \_\_\_\_\_pcs |  |
|  | Elution Tubes (1.5ml) | RM80/50 pcs | \_\_\_\_\_pcs |  |

**EQUIPMENT**

|  | |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

| \*Reference: | |
| --- | --- |
| **CMBRL** | : Craniofacial & Molecular Biology Research Lab |
| **BRL** | : Biomaterials Research Lab |
| **BUARL** | : Balai Ungku Aziz Research Lab |
| **RDL** | : Research Diagnostic Lab |
| **TCRL** | : Thermal Characterization Research Lab |
| **SCRL/RRRL** | : Stem Cell/ Restorative & Regenerative & Restorative Research Lab |

1. User will be trained and briefed by lab staff prior to operate the instrument / equipment.
2. User will run/ operate the equipment under lab staff supervision for the first time.
3. User should bear the cost of instrument damage due to negligence.
4. Charges are NOT inclusive chemicals and consumable items for the sample preparation.

| **REFERENCE** | | | | | | | | | **TO BE FILLED BY APPLICANT** | **TO BE CHECKED BY LAB STAFF** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO** | **EQUIPMENT** | | | **\*LAB** | **QUANTITY** | **RINGGIT MALAYSIA (RM)** | | | **QUANTITIES - unit** | **CHARGE**  **(RM)** |
| **FACULTY OF DENTISTRY-UM** | **NON-FACULTY OF DENTISTRY-UM** | **NON- UM** |
|  | HIGH PERFORMACE LIQUID CHOMATOGRAPHY (HPLC)  MODEL: AGILENT | | | BUARL | PER RUN  (BRING OWN COLUMN & SOLVENTS FOR TESTING SAMPLES) | 20 | 50 | 70 | \_\_\_run |  |
|  | BIOLOG | | | BUARL | PER USAGE  (BRING OWN PLATE & INOCULATION FLUID) | 30 | 60 | 80 | \_\_\_\_usage |  |
|  | ELISA READER | | | BUARL | PER USAGE  (READ ONLY) | 10 | 20 | 30 | \_\_\_\_\_usage |  |
|  | FREEZE DRYER | | | BUARL | PER DAY (MAX 2 DAYS PER RUN) | 30 | 60 | 80 | \_\_\_\_\_run |  |
|  | SPECTROPHOTOMETER | | | BUARL | PER USAGE | 10 | 20 | 30 | \_\_\_\_usage |  |
|  | DIAMOND CUTTER | | | BUARL | PER USAGE | 10 | 30 | 50 | \_\_\_\_usage |  |
|  | MOTICAM CAMERA | | | BUARL | PER USAGE | 10 | 20 | 30 | \_\_\_\_usage |  |
|  | REFRIGERATOR /CENTRIFUGE | | | BUARL | PER RUN | 10 | 20 | 30 | \_\_\_\_run |  |
|  | NORDINI'S ARTIFICIAL MOUTH (NAM) MODEL | | | BUARL | PER SAMPLE | 15 | 30 | 50 | \_\_\_\_sample |  |
|  | BIOSAFETY CABINET CLASS II (4 UNIT) | | | BUARL | PER DAY | 10 | 30 | 50 | \_\_\_\_day |  |
|  | LAMINAR AIR FLOW CABINET | | | BUARL | PER DAY | 10 | 30 | 50 | \_\_\_\_day |  |
|  | FUME HOOD CUPBOARD | | | BUARL | PER DAY | 10 | 30 | 50 | \_\_\_\_day |  |
|  | AUTOCLAVE ( TOMY, HIRAYAMA) | | | BUARL | PER RUN | 10 | 30 | 50 | \_\_\_\_\_run |  |
|  | CELL COUNTER | | | BUARL | PER USAGE | 10 | 20 | 30 | \_\_\_\_\_usage |  |
|  | INCUBATOR , INCUBATOR SHAKER | | | BUARL | PER DAY | 10 | 20 | 30 | \_\_\_\_day |  |
|  | FREEZER -80 ( ESCO) | | | BUARL | PER MONTHLY | 30 | 50 | 100 | \_\_\_cryobox |  |
|  | FREEZER -20 (HAIER) | | | BUARL | PER MONTHLY | 20 | 40 | 70 | \_\_\_drawer |  |
|  | ATOMIC FORCE MICROSCOPE (AFM)  MODEL: JPK INSTRUMENT | | | BRL | PER SAMPLE  (EXCLUDED CANTILEVER) | 80 | 150 | Local: 250  International: 500 | \_\_\_\_sample |  |
|  | UNIVERSAL TESTING MACHINE (UTM)  MODEL: AGS-X SERIES SHIDMADZU | TENSILE | | BRL | PER PROJECT/USAGE  (EXCLUDING JIG)  (MAX 25 SAMPLE) | 150 | 300 | Local: 500  International:1000 | \_\_\_\_\_project/usage |  |
| COMPRESSION | | 150 | 300 | Local: 500  International:1000 | \_\_\_\_\_project/usage |  |
| FLEXURE | | 150 | 300 | Local: 500  International:1000 | \_\_\_\_\_project/usage |  |
|  | FULLY AUTOMATED THERMOCYCLING MACHINE | | | BRL | PER CYCLE(MAX 500 Cycle per day) | 100 | 300 | Local: 500  International: 800 | \_\_\_\_project |  |
|  | LOW SPEED PRECISION SAWING MACHINE  MODEL: MICRACUT 125 | | | BRL | PER PROJECT MAX 30 SAMPLES  (EXCLUDE DIAMOND BLADE) | 200 | 450 | Local: 700  International: 1000 | \_\_\_\_sample |  |
| PER PROJECT MAX 30 SAMPLES  (WITH BRL DIAMOND BLADE) | 350 | 700 | Local: 1000  International: 1500 | \_\_\_\_sample |  |
|  | HIGH SPEED PRECISION SAWING MACHINE  MODEL: METKON MIRCACUT 2000 | | | BRL | PER PROJECT MAX 30 SAMPLES  (EXCLUDE DIAMOND BLADE) | 200 | 450 | Local: 700  International: 1000 | \_\_\_\_sample |  |
|  | PER PROJECT MAX 30 SAMPLES  (WITH BRL DIAMOND BLADE) | 350 | 700 | Local: 1000  International: 1500 | \_\_\_\_ sample |
|  | INDUCTION HEATING MACHINE | | | BRL | PER SAMPLE | 50 | 100 | Local: 200  International: 400 | \_\_\_\_usage |  |
|  | DIGITAL COLOR SPECTROPHOTOMETER  MODEL: KONIKA MINOLTA | | | BRL | PER 10 SAMPLE | 50 | 60 | Local: 70  International: 150 | \_\_\_\_ sample |  |
|  | SAMPLE PREPARATION:   1. HMDS/CPD | | | BRL | PER SAMPLE | 55 | 90 | Local: 110  International: 220 | \_\_\_\_ sample |  |
| 1. GOLD/PLATINUM COATING | | | PER RUN | 55 | 90 | Local: 110  International: 220 | \_\_\_\_ sample |  |
|  | THIN SECTIONING MACHINE  MODEL: BUEHLER-PETROTHIN | | | BRL | PER PROJECT | 110 | 220 | Local: 330  International: 660 | \_\_\_\_usage |  |
|  | POLISHER AND GRINDING MACHINE  MODEL: BUEHLER | | | BRL | PER PROJECT/USAGE  (EXCLUDE SAND PAPER) | 100 | 300 | Local: 500  International: 800 | \_\_\_\_ usage |  |
|  | OPTICAL COHERENCE TOMOGRAPHY (OCT) | | MODEL: THORLABS SWEPT-SOURCE OCT SYSTEM (OCS 1300SS) Repair | BRL | PER SAMPLE | 80 | 120 | Local: 200  International: 400 | \_\_\_\_sample |  |
| MODEL: SUNTEC JAPAN (INTRA-ORAL PROBE) | 80 | 120 | Local: 200  International: 400 | \_\_\_\_sample |  |
|  | PLANETARY BALL MILL  Model: XQM-(2-6)L | | | BRL | PER RUN | 100 | 200 | Local: 300  International: 500 | \_\_\_\_sample |  |
|  | ION FLUORIDE METER  MODEL: EUTECH ION 700 | | | BRL | PER PROJECT (MAX 50-80 SAMPLES) | 350 | 550 | Local: 750  International: 1000 | \_\_\_\_project |  |
|  | FURNACE | | TECHNIQUE: MELT QUENCHING | BRL | PER RUN | 100 | 300 | Local: 500  International: 800 | \_\_\_run |  |
| TECHNIQUE: SINTERING | 100 | 300 | Local: 500  International: 800 | \_\_\_run |  |
|  | ALL HIGH TECHNOLOGY EQUIPMENT  **(all equipment other than basic equipment)** | | | CMBRL | PER YEAR/USER | 3500 | NA | NA | \_\_\_\_year/user |  |
|  | FAST REAL TIME PCR SYSTEM  (MODEL: APPLIED BIOSYSTEMS 7500) | | | CMBRL | PER RUN | 150 | 160 | 170 | \_\_\_\_run |  |
| PER YEAR/USER | 1500 | NA | NA | \_\_\_\_year/user |  |
|  | THERMAL CYCLER  (MODEL: ABI VERITI) | | | CMBRL | PER RUN | 30 | 50 | 100 | \_\_\_\_run |  |
| PER YEAR/USER | 300 | NA | NA | \_\_\_\_year/user |
|  | NANODROP  (MODEL: ND2000) | | | CMBRL | PER DAY | 50 | 60 | 70 | \_\_\_\_sample |  |
| PER YEAR/USER | 500 | NA | NA | \_\_\_\_year/user |
|  | CONCENTRATOR  (MODEL: EPPENDORF) | | | CMBRL | PER RUN | 50 | 60 | 70 | \_\_\_\_sample |  |
|  | MICROMODE MICROPLATE READER  (TECAN INFINITE 200 PRO) | | | CMBRL | PER PLATE | 100 | 120 | 150 | \_\_\_\_plate |  |
| PER YEAR/USER | 800 | NA | NA | \_\_\_\_year/user |
|  | CELL CULTURE FACILITIES :  Biosafety Cabinet, CO2 Incubator + CO2 gas, Inverted microscope, waterbath, centrifuge, fridge | | | CMBRL | PER YEAR/USER | 2000 | 2500 | 3000 | \_\_\_\_year/user |  |
|  | Inverted Microscope (LEICA DMI3000) | | | CMBRL | PER DAY | 150 | 160 | 170 | \_\_\_\_day |  |
|  | WESTERN BLOT FACILITIES:  Imaging system (Odyssey/Gel Doc), Trans-Blot Turbo System, Orbital Shaker, | | | CMBRL | PER YEAR/USER | 1000 | 1500 | 2000 | \_\_\_\_year/user |  |
|  | BIOANALYZER  (Model: Agilent2100) | | | CMBRL | PER RUN  (Max: 12 samples) | 100 | 200 | 300 | \_\_\_\_run |  |
|  | Laminar Flow (PCR/RNA Box) | | | CMBRL | PER DAY | 50 | 60 | 70 | \_\_\_\_hour |  |
| PER YEAR/USER | 500 | NA | NA | \_\_\_\_year/user |
|  | SAMPLE / MATERIAL STORAGE:  Freezer -80, Freezer -20, Fridge  **\*PRIORITY FOR CMBRL USER** | | | CMBRL | PER CRYOBOX@ ITEM/MONTH | 30 | 50 | 100 | \_\_\_\_cryobox,  item/month |  |
| PER YEAR/USER  \*For CMBRL user only | 1000 | 1500 | 2000 | \_\_\_\_year/user |
|  | SAMPLE STORAGE:  Liquid Nitrogen (LN2) | | | CMBRL | PER CRYOBOX/MONTH | 50 | 100 | 150 | \_\_\_\_box/month |  |
| PER CRYOBOX/YEAR | 500 | NA | NA | \_\_\_\_year/user |  |
|  | AUTOMATED DNA EXTRACTION  (Model: QIAcube) | | | CMBRL | PER RUN  (Max: 12 SAMPLES) | 200 | 300 | 400 | \_\_\_\_run |  |
|  | ODYSSEY FC IMAGING SYSTEM  (LICOR) –Western Blot,etc | | | CMBRL | PER DAY | 100 | 120 | 150 | \_\_\_\_sample |  |
|  | CYTOSPIN  (MODEL: SHANDON) | | | RDL | PER RUN | 1 | 2 | 3 | \_\_\_\_run |  |
|  | THIN PREP AUTO SMEAR  (MODEL: TP 2000) | | | RDL | PER SLIDE | 1 | 2 | 4 | \_\_\_\_\_slide |  |
|  | TISSUE ARRAYER MINICORE  (MODEL: ALPHELYS) | | | RDL | PER SAMPLE | 2 | 5 | 10 | \_\_\_\_sample |  |
|  | HISKY COMPLETE SYSTEM  (MODEL: APPLIED SPECTRAL IMAGING) | | | RDL | PER SAMPLE | 5 | 10 | 15 | \_\_\_\_sample |  |
|  | MICROSCOPE FLUORESCENT  (MODEL: OLYMPUS BX61)  FOR ANALYSIS  - FLUORESCENT | | | RDL | PER SAMPLE | 10 | 15 | 20 | \_\_\_\_\_sample |  |
|  | MICROSCOPE FLUORESCENT  (MODEL: OLYMPUS BX61) FOR ANALYSIS  (WITHOUT FLUORESCENT) | | | RDL | PER SAMPLE | 5 | 10 | 15 | \_\_\_\_sample |  |
|  | MICROSCOPE FLUORESCENT  (MODEL: OLYMPUS BX61) FOR ANALYSIS  (IMAGE PRO USAGE) | | | RDL | PER HOUR | 5 | 10 | 15 | \_\_\_\_hour |  |
|  | pH METER  MODEL: CYBERSCAN | | | BUARL | PER RUN | Free | 10 | 10 | \_\_\_\_run |  |
|  | GEL IMAGING SYSTEM  (MODEL: M20V) | | | BUARL | PER SAMPLE | 10 | 20 | 30 | \_\_\_\_ sample |  |
| CMBRL | PER RUN | 30 | 50 | 100 | \_\_\_\_ run |  |
|  | CRYOSTAT  MODEL: LEICA CM1900 | | | RDL  MODEL: LEICA CM1850UV | PER SAMPLE  (INCLUSIVE OF RAPID  H & E STAIN) | 10 | 20 | 50 | \_\_\_\_sample |  |
|  | LASER CAPTURE MICRODISSECTION (LCM) | | | RDL | PER SLIDE | 200 | 260 | 340 | \_\_\_\_\_slide |  |
| PER DAY | 400 | 520 | 680 | \_\_\_\_\_day |
|  | CELL CULTURE FACILITIES :  Biosafety Cabinet, CO2 Incubator + CO2 gas, Inverted microscope, waterbath, centrifuge | | | SCRL | PER YEAR/ USER | 3000 | 4000 | 5000 | \_\_\_\_year/ user |  |
|  | BIOLOGICAL SAFETY CABINET | | | SCRL | PER MONTH | 50 | 100 | 200 | \_\_\_month |  |
|  | CO2 INCUBATOR | | | SCRL | PER FLASK/MONTH | 50 | 100 | 200 | \_\_\_\_flask/month |  |
|  | INVERTED MICROSCOPE | | | SCRL | PER MONTH | 50 | 100 | 200 | \_\_\_\_month |  |
|  | WATER BATH | | | SCRL | PER MONTH | 50 | 100 | 200 | \_\_\_\_month |  |
|  | ULTRA-PURE WATER MACHINE  (MILLI-Q) | | | SCRL | PER 5 L/ MONTH | 30 | 50 | 100 | \_\_\_\_5 liter (L)/ month |  |
|  | CENTRIFUGE | | | SCRL | PER MONTH | 50 | 100 | 200 | \_\_\_\_month |  |
|  | REFRIGERATOR | | | SCRL | PER ITEM/PACK/BOX/MONTH | 20 | 40 | 60 | \_\_\_\_item/pack/box/month |  |
|  | -80 FREEZER | | | SCRL | PER BOX/MONTH | 30 | 50 | 100 | \_\_\_\_box/  month |  |
|  | -20 FREEZER | | | SCRL | PER BOX/MONTH | 30 | 50 | 100 | \_\_\_\_box/month |  |
|  | ELISA READER | | | SCRL | PER PLATE | 30 | 50 | 100 | \_\_\_\_\_plate |  |
|  | SPECTROPHOTOMETER  (MULTISCAN GO) | | | SCRL | PER PLATE | 30 | 50 | 100 | \_\_\_\_\_plate |  |
| PER HOUR  (FOR CUVETTE) | 30 | 50 | 100 | \_\_\_\_\_hour |
|  | THERMAL CYCLER | | | SCRL | PER RUN | 30 | 50 | 100 | \_\_\_\_run |  |
|  | MICROPIPETTES | | | SCRL | PER MONTH | 50 | 100 | 200 | \_\_\_\_month |  |
|  | CELL COUNTER | | | SCRL | PER MONTH | 50 | 100 | 200 | \_\_\_\_month |  |
| **TOTAL** | | | | | | | | | |  |

**SERVICES**

| \*Reference: | |
| --- | --- |
| **CMBRL** | : Craniofacial & Molecular Biology Research Lab |
| **BRL** | : Biomaterials Research Lab |
| **BUARL** | : Balai Ungku Aziz Research Lab |
| **RDL** | : Research Diagnostic Lab |
| **TCRL** | : Thermal Characterization Research Lab |
| **SCRL/RRRL** | : Stem Cell/ Restorative & Regenerative & Restorative Research Lab |

**SERVICE CHARGE**

* Service fees/charges calculated per sample/ slide/ project
* Charges are NOT inclusive of chemicals and consumables item for the sample preparation
* Applicant must provide and determine the number of samples/ specimens

| **REFERENCE** | | | | | | | **TO BE FILLED BY THE APPLICANT** | **TO BE CHECKED BY LAB STAFF** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO** | **LABORATORY SERVICES** | **LAB** | **QUANTITY** | **SERVICE CHARGE**  **(per sample/ slides/ run/ project)** | | | **QUANTITY** | **TOTAL PAYMENT** |
| **FACULTY OF DENTISTRY-UM**  **(RM)** | **NON-FACULTY OF DENTISTRY-UM**  **(RM)** | **NON-UM**  **(RM)** |
|  | LAB BASIC FACILITIES - utilities, bench, balance, incubator, chemicals storage, stirrer, ph meter, micropipette, vortex, centrifuge, water bath, ice maker, oven, hot plate, autoclave, RO & ultra pure water, fumehood, ultrasonicater & others.  *Note: Please refer to the lab staff to confirm the availability of facilities/ equipment, and note that the price is negotiable.* | ALL LABS | PER PROJECT/ MULTIPLE USERS | 3,000 | 4,000 | 5,000 | \_\_\_\_\_ project |  |
|  | Light cure, homogenizer, hand piece, scaler, hydrolic press, etc. (negotiable) | BRL | PER PROJECT | 500.00 – 1,000.00 | 800.00 – 3,000.00 | Local: 2,000.00 – 5,000.00  International: 3,000.00 – 8,000.00 | \_\_\_\_\_ project |  |
|  | SCANNING ELECTRON MICROSCOPE (SEM)  Model: FEI Quanta 250 FEG SEM  Mode: Low Vacuum  repaired | BRL | PER SAMPLE | 150 | 250 | Local: 450  International: 900 | \_\_\_\_sample |  |
|  | ENERGY DISPERSIVE X-RAY SPECTROMETER (EDS)  Model: XMax20 SDD  repaired | BRL | PER SAMPLE  (1 scanning) | 60 | 110 | Local: 220  International: 440 | \_\_\_\_sample |  |
|  | 3D OPTICAL SURFACE TEXTURE ANALYZER  Model: Infinite Focus Real 3D Alicona | BRL | PER SAMPLE | 80 | 150 | Local: 250  International: 500 | \_\_\_\_sample |  |
|  | FOURIER TRANSFORM INFRARED (FTIR)  Model: Nicolet 6700 | BRL | PER SAMPLE | 50 | 100 | Local: 200  International: 400 | \_\_\_\_sample |  |
|  | THERMOMECHANICAL ANALYZER (TMA)  Model: TMA-60 | BRL | PER SAMPLE | 80 | 150 | Local: 250  International: 350 | \_\_\_\_sample |  |
|  | \*FULLY AUTOMATED MICRO HARDNESS TESTING MACHINE  Model: HMV-FA (ISO 17025:2017 Accreditated)  **\*TEMPORARILY NOT AVAILABLE** | BRL | PER SAMPLE | 100 | 200 | Local: 300  International: 600 | \_\_\_\_sample |  |
|  | FULLY AUTOMATED MICRO HARDNESS TESTING MACHINE  Model: HMV-FA (Vickers Hardness) | BRL | PER SAMPLE | 80 | 150 | Local: 250  International: 500 | \_\_\_\_sample |  |
|  | STEREO MICROSCOPE  MODEL: SZX7 OLYMPUS | BRL | PER PROJECT | 200 | 400 | Local: 600  International: 500 | \_\_\_\_ project |  |
|  | COMPOUND MICROSCOPE  MODEL: BX51 OLYMPUS | BRL | PER PROJECT | 200 | 400 | Local: 600  International: 500 | \_\_\_\_\_\_project |  |
|  | DENSITY BALANCE  Model: AX224 Sartorius | BRL | PER SAMPLE | 3 | 5 | Local: 10  International: 20 | \_\_\_\_ sample |  |
|  | LUMINEX  Model: Luminex 200 | SCRL | PER SAMPLE - 96 well plates  (exclude sample preparation) | 300 | 400 | 550 | \_\_\_\_ sample |  |
|  | BIOANALYZER  (Model: Agilent2100) | CMBRL | PER RUN  (12 samples)  \*Prices do not include the chip and reagents | 150 | 250 | 300 | \_\_\_\_run |  |
|  | AUTOMATED DNA EXTRACTION  (Model: QIAcube) | CMBRL | PER RUN  (12 samples) | 50 | 80 | 120 | \_\_\_\_run |  |
|  | MICROMODE MICROPLATE READER  (TECAN INFINITE 200 PRO) | CMBRL | PLATE | 80 | 130 | 180 | \_\_\_\_plate |  |
|  | CRYOSTAT (FROZEN TISSUE SECTIONING) MODEL: LEICA CM1850UV | RDL | PER SLIDE  (inclusive consumables) | 20 | 25 | 30 | \_\_\_\_slide |  |
| PER SLIDE  (sectioning only) | 15 | 20 | 25 | \_\_\_\_slide |  |
|  | MICROTOME (SECTIONING TISSUE)  (MODEL: LEICA RM2045 & RM2035) | RDL | PER SLIDE  (inclusive consumables) | 5 | 7 | 10 | \_\_\_\_slide |  |
| PER SLIDE  (sectioning only) | 2 | 3 | 6 | \_\_\_\_slide |  |
|  | THIN PREP AUTO SMEAR  (PREPARE SLIDES) | RDL | PER SLIDE | 5 | 6 | 10 | \_\_\_\_slide |  |
|  | DIGITAL SCANNING SYSTEM  MODEL: PANNORAMIC DESK  BRAND: 3DHISTECH | RDL | PER SLIDE | 5 | 20 | 30 | \_\_\_\_slide |  |
|  | DYNAMIC MECHANICAL ANALYSER  (DMA) | TCRL | PER SAMPLE | 80 | 150 | 200 | \_\_\_\_\_sample |  |
|  | THERMOGRAVIMETRIC ANALYSER (TGA) | TCRL | PER SAMPLE | 50 | 100 | 150 | \_\_\_\_\_sample |  |
|  | DIFFERENTIAL SCANNING CALORIMETRY (DSC) | TCRL | PER SAMPLE/PAN | 60 | 120 | 180 | \_\_\_\_\_sample |  |
|  | MICROBIOLOGY – AGAR/BROTH PREPARATION | BUARL | PER PLATE | 1 | 2 | 3 | \_\_\_\_plate |  |
|  | MICROBIOLOGY- COLONY COUNT | BUARL | PER PLATE | 1 | 2 | 3 | \_\_\_\_\_plate |  |
|  | MICROBIOLOGY- GRAM STAINING | BUARL | PER SLIDE | 1 | 3 | 5 | \_\_\_\_\_slide |  |
|  | FREEZE DRY SAMPLE | BUARL | PER SAMPLE | 10 | 20 | 30 | \_\_\_\_\_sample |  |
|  | DIAMOND CUTTER | BUARL | PER SAMPLE | 10 | 20 | 30 | \_\_\_\_sample |  |

LU: 11.12.23