1. **PEMOHON (PENYELIDIK UTAMA)**

***APPLICANT (LEAD RESEARCHER)***

|  |  |  |
| --- | --- | --- |
| A. | NAMA*NAME* |  |
| B. | UKM PER***ID NO.*** |  |
| C. | FAKULTI/INSTITUT*FACULTY/INSTITUTE* |  |
| D. | EMEL & NO. TEL BIMBIT*EMAIL & NO. MOBILE* |  |

1. **PROJEK PENYELIDIKAN**

*RESEARCH PROJECT*

|  |  |  |
| --- | --- | --- |
| A. | TAJUK*TITLE* |  |
| B | NO GERAN*GRANT NO.* |  |
| C. | INSTITUSI PEMBIAYA DANA*FUNDING INSTITUTION* |  |
| D. | TEMPOH KAJIAN*DURATION OF STUDY* | MULA *START* | (Bulan/*Month*) | (Tahun/*Year*) |
| TAMAT*END* | (Bulan/*Month*) | (Tahun/*Year*) |

1. **PENYELIDIK BERSAMA DAN KAKITANGAN YANG TERLIBAT (termasuk kakitangan makmal)**

 ***CO-RESEARCHERS AND STAFFS INVOLVED (including laboratory staffs)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Bil.*****No.*** | **Nama dan Alamat*****Name and Address*** | **Kelayakan** ***Qualification*** | **Jawatan*****Position*** | **Telefon & Emel*****Telephone &Email*** |
| 1. |  |  |  |  |
| 2. |  |  |  |  |
| 3. |  |  |  |  |
| 4. |  |  |  |  |
| 5. |  |  |  |  |
| 6. |  |  |  |  |

1. **PELAJAR**

***STUDENTS***

|  |  |  |  |
| --- | --- | --- | --- |
| **Bil.*****No.*** | **Nama dan Alamat*****Name and Address*** | **Program*****Program*** | **Telefon & Emel*****Telephone &Email*** |
| 1. |  |[ ]  Prasiswasah*Undergraduate* |  |
|  |  |[ ]  Pascasiswazah*Postgraduate* |  |
| 2. |  |[ ]  Prasiswasah*Undergraduate* |  |
|  |  |[ ]  Pascasiswazah*Postgraduate* |  |
| 3. |  |[ ]  Prasiswasah*Undergraduate* |  |
|  |  |[ ]  Pascasiswazah*Postgraduate* |  |
| 4. |  |[ ]  Prasiswasah*Undergraduate* |  |
|  |  |[ ]  Pascasiswazah*Postgraduate* |  |
| 5. |  |[ ]  Prasiswasah*Undergraduate* |  |
|  |  |[ ]  Pascasiswazah*Postgraduate* |  |

**BAHAGIAN 1: GAMBARAN MENYELURUH KAJIAN**

***SECTION 1: OVERVIEW OF STUDY***

|  |  |
| --- | --- |
| **1.1** | **Latar belakang ringkas dan kewajaran projek (Tidak melebihi 300 perkataan)*****Brief background and justification of study (Not more than 300 words)*** |
|  |

|  |  |
| --- | --- |
| **1.2** | **Adakah kajian yang serupa sedang/pernah dijalankan oleh penyelidik atau penyelidik lain?****(Jika ya, sila berikan butiran dengan kata kunci (maksimum 3 penerbitan penuh) perlu dikemukakan bersama-sama borang permohonan)*****Have similar studies been undertaken by you or others currently /previously?******(If yes, give details with key references (maximum of 3 full publications) must be submitted together with the application form)*** |
|  |  |
| **1.3** | **Matlamat kajian (Senaraikan matlamat umum dan khusus)*****Study objectives (List general and specific objectives)*** |
|  |  |
| **1.4** | **Hipotesis kajian** ***Study hypothesis*** |
|  |  |

|  |  |
| --- | --- |
| **1.5** | **Berikan ringkasan rekabentuk kajian menggunakan CARTA ALIR (Sila masukkan kumpulan, spesies, bilangan dan umur haiwan yang digunakan, kaedah, tempoh kajian dan parameter-parameter kajian).*****Provide a summary of the study design using a FLOWCHART. (Please include the, study parameters) groupings, species, number and age of animal used, methodology, duration of experiments*** |
|  |

|  |  |
| --- | --- |
| **1.6** | **Kewajaran penggunaan haiwan.*****Justification of using animals*** |
|  |  |
| **1.7** | **Potensi manfaat kajian.** ***Potential benefits of study*.** |
|  |[ ]  Meningkatkan kefahaman mengenai kesihatan haiwan/manusia*Increasing understanding of animal / human health* |
|  |[ ]  *Pengekalan/penambahbaikan kesihatan haiwan/manusia**Maintaining / improving animal / human health* |
|  |[ ]  Penambahbaikan pengurusan haiwan*Improving animal management* |
|  |[ ]  Lain-lain (sila nyatakan):*Others (please specify):* |  |

**BAHAGIAN 2: MAKLUMAT HAIWAN KAJIAN**

***SECTION 2: INFORMATION ON EXPERIMENTAL ANIMALS***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2.1** | **Jenis haiwan akuatik.*****Types of aquatic animals.***

|  |  |  |
| --- | --- | --- |
|  | Jenis haiwan/*Animal type* | Nyatakan nama saintifik/*State the scientific name* |
|[ ]  Pisin*Piscine* | e.g. Tilapia *(Oreochromis niloticus)* |
|[ ]  Krustasia*Crustacean*  | e.g. Prawn (*Macrobrachium rosenbergii*) |
|[ ]  Amfibia*Amphibian*  | e.g. Frog (*Rana temporaria*) |
|[ ]  Celonia*Chelonian*  | e.g. Terrapin (***Malaclemys terrapin***) |
|[ ]  Setasia*Cetaceans*  | e.g. Dolphin **(*Sousa chinensis*)** |
|[ ]  Lain-lain/*Others* |  |

 |
| **2.2** | Adakah sebarang permit diperlukan untuk menangkap, mengguna, memusnah atau melepaskan haiwan yang dilindungi atau haiwan transgenik?Jika ya, sila sertakan dokumen berkenaan.*Is there any permit that must be obtained for the capture, used, destruction or release of protected or transgenic animals?**If yes, please provide the necessary document(s).*  |  |
|  |  | [ ]  PERIKANAN/*FISHERY* |
|  |  | [ ]  UKM-IBC/*UKM-IBC* |
| **2.3** | **Peringkat hidup/umur*****Life stage/Age*** |  |
| **2.4** | **Berat/ Ukuran panjang badan*****Weight/Body length*** |  |
| **2.5** | **Bilangan haiwan*****Number of animals*** |
|  |  | Jantan*Male* | Betina*Female* | Jumlah *Total* |
|  | Kumpulan kawalan*Control group* |  |  |  |
|  | Kumpulan kajian*Tested group* |  |  |  |
|  | Jumlah*Total* |  |  |  |
| **2.6** | **Sumber haiwan***Source of animals* |
|  |[ ]  Institusi tempatan lain (Sila nyatakan)*Other local institution (Please specify)* |  |
|  |[ ]  Diimport*Imported* |
|  |  | Syarikat pengimport*Importing company* |  |
|  |  | Negara asal*Country of origin* |  |
| **SILA SERTAKAN SALINAN SIJIL KESIHATAN DAN PERMIT IMPORT APABILA MENDAPAT KELULUSAN.*****PLEASE SUBMIT A COPY OF HEALTH CERTIFICATE AND THE IMPORT PERMIT UPON APPROVAL.*** |
| **2.7** | **Penyesuaian dan rawatan profilaksis haiwan sebelum eksperimen****(Peralihan haiwan dari sumber ke tempat baru/kajian)***Acclimatisation and prophylactic treatment of the animals before the experiment**(Transitioning of the animals from the source to new/experiment setting)*2.7.1 Bilangan hari/*Number of days*:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2.7.2 Rawatan/*Treatment*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_[ ]  Metilena biru/*Methylene blue*[ ]  Air garam/*Salt water*[ ]  Malakit hijau/*Malachite green*[ ]  Akriflavin/*Acriflavine* [ ]  Povidone iodine[ ]  Others/lain-lain\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **2.8** | **Penempatan haiwan*****Housing of animals*** |
|  | 2.8.1 |  |
|  |  |[ ]  Kolam*Pond* |
|  |  | Jenis*Type* |[ ]  Tanah*Land* |[ ]  Simen*Cement* |[ ]  Lain-lain (Nyatakan):*Others (Specify):* |  |
|  |  |[ ]  Tangki*Tank* |
|  |  | Jenis*Type* |[ ]  Gentian *Fiber* |[ ]  Akuarium*Acquarium* |[ ]  Lain-lain (Nyatakan):*Others (Specify):* |  |
|  |  | Pelitup dasar kolam/tangki*Pond/tank’s bottom lining* | [ ]  Ya/*Yes*[ ]  Tidak/*No*  | Sila nyatakan jika ya*(Please indicate if yes)* |  |
|  |  | Saiz/Isipadu/Kapasiti (contoh m3/10 ton)*Size/Volume/Capacity**(e.g. m3/10 ton)* |  |
|  |  | Sistem pengaliran air*Water flow system* | [ ]  Edaran semula/*recirculating*[ ]  statik/*static*[ ]  penapisan dalaman/*internal filteration*[ ]  aliran terus/*flow-through*[ ]  lain-lain/*others:* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  | Sistem disinfeksi*Disinfection system* | [ ]  bahan kimia/*chemical agent*, nyatakan/*state*: \_\_\_\_\_\_\_\_\_\_\_\_[ ]  sistem filterasi/*filtration system*[ ]  sistem ultralembayung/*UV system*[ ]  ozon/*ozone*  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2.8.2 | Kepadatan pelepasan *Stocking density* |  |
|  | 2.8.3 | Sumber air*Source of water* | [ ]  air sungai (*river water*)[ ]  air laut (*sea water*)[ ]  air paip (*tap water*)[ ]  lain-lain/*other*, nyatakan/*state*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | 2.8.4 | Lokasi kolam/tangki*Location of the pond/tank* |  |
| **2.9** | **Makanan haiwan*****Animal feed*** |
|  | 2.9.1 | Sumber makanan*Source of feed*  |
|  |  | Jenis*Type* |[ ]  Komersial*Commercial* |[ ]  Tempatan*Local* | Nama pengeluar*Name of manufacturer*  |
|  |  |  |  |  |[ ]  Diimport*Imported* |  |
|  |  |  |  | Adakah makanan mengandungi sumber porsin?*Does the feed contains porcine ingredients?*[ ]  Tidak/*No*[ ]  Ya/*Yes*[ ]  Tiada maklumat/*No information* |
|  |  |  |[ ]  Formulasi sendiri*Self-formulated* |
|  |  |  |  | Senaraikan bahan-bahan utama dalam formulasi*List the major ingredients in the formulation* |
|  |  |  |  |  |
|  |  |  |[ ]  Makanan hidup/*Live feed*, nyatakan/*state*:  |  |
|  | 2.9.2 | Kekerapan pemberian makanan*Frequency of feeding* |
|  |  |[ ]  Setiap hari*Daily* |[ ]  Dua kali sehari *Twice daily* |
|  |  |[ ]  Tiga kali sehari*Three times daily* |[ ]  *Ad libitum**Ad libitum* |
|  | 2.9.3 | Nyatakan berat makanan berdasarkan peratus berat badan haiwan (%)(Contoh 2 % daripada berat badan haiwan sehari)*State the weight of the food based on the percentage of body weight of the animals (%)**(E.g. 2 % of body weight of the animals per day)*  |
|  |  |  |  |
| **2.10** | **Kualiti air*****Water quality*** |
|  | 2.10.1 | Kekerapan menguji kualiti air*Frequency of testing water quality* |
|  |  |[ ]  Harian*Daily* |[ ]  Mingguan*Weekly* |
|  |  |  |  |[ ]  Lain-lain (Nyatakan): *Others (Specify)* |  |
|  | 2.10.2 | Parameter kualiti air yang diuji dan nyatakan ketetapan nilaiWater quality parameters tested and state the cut-off values |
|  |  |  | Parameter*Parameter* | Ketetapan nilai*Cut-off value* |
|  |  |[ ]  Oksigen terlarut*Dissolved oxygen (ppm)* |  |
|  |  |[ ]  Suhu*Temperature (oC)* |  |
|  |  |[ ]  pH*pH* |  |
|  |  |[ ]  Ammonia (ppm)*Ammonia (ppm)* |  |
|  |  |[ ]  Nitrat (ppm)*Nitrate (ppm)* |  |
|  |  |[ ]  Nitrit (ppm)*Nitrite (ppm*) |  |
|  |  |[ ]  Saliniti*Salinity (ppt)* |  |
|  |  |  | Sila berikan sebab jika tidak perlu dilakukan*Please provide reasons if this is not necessary* |
|  |  |  |  |

|  |  |
| --- | --- |
| **2.11** | **Kitar pencahayaan** ***Lighting cycle***  |
|  |[ ]  Cahaya semula jadi*Natural light* |
|  |[ ]  Cahaya terkawal (sila nyatakan dalam jam/hari):*Controlled light* *(please specify in hours/day):* |  |

**BAHAGIAN 3: TATACARA DALAM HAIWAN**

***SECTION 3: PROCEDURES IN ANIMALS***

Sila tandakan [√ ] dalam kotak yang bersesuaian. Biarkan kosong jika tidak berkaitan.

*Please tick [√ ] in the necessary boxes. Leave blank if not applicable.*

|  |  |
| --- | --- |
| **3.1** | **Tatacara bukan pembedahan*****Non-surgical procedures*** |
|  | 3.1.1 | Tatacara (Nyatakan dengan terperinci)*Procedures (Specify in detail)* |
|  |  |[ ]  Suntikan bahan ujian*Injection of test substance* |
|  |  |  | Isipadu bahan ujian*Volume of test substance* |  |
|  |  |  | Kekerapan suntikan*Frequency of injection* |  |
|  |  |  | Cara suntikan*Route of injection* |  |
|  |  |[ ]  Pensampelan darah*Bleeding of animal* |  |
|  |  |  | Isipadu darah*Volume of blood* |  |
|  |  |  | Kekerapan pensampelan darah*Frequency of bleeding* |  |
|  |  |  | Cara pensampelan darah*Route of bleeding* |  |
|  |  |[ ]  Biopsi*Biopsy* |  |
|  |  |  | Jenis*Type* |  |
|  |  |  | Saiz sampel biopsi*Size of biopsy sample* |  |
|  |  |  | Kekerapan*Frequency* |  |
|  |  |[ ]  Gavaj oral*Oral gavage* |  |
|  |  |  | Isipadu bahan ujian*Volume of test substance* |  |
|  |  |  | Saiz jarum gavaj*Size of gavage needle* |  |
|  |  |  | Panjang jarum gavaj*Length of gavage needle* |  |
|  |  |  | Kekerapan gavaj*Frequency of gavage* |  |
|  |  |[ ]  Ubahsuaian tingkahlaku*Modification of behaviour* |  |
|  |  |[ ]  Aruhan tumor*Induction of tumours* |  |
|  |  |  | Agen/Bahan ujian karsinogenik *Carcinogenic agent/test substance*  |  |
|  |  |  | Dos*Dose* |  |
|  |  |  | Kekerapan*Frequency* |  |
|  |  |  | Tempoh*Duration* |  |
|  |  |  | Langkah keselamatan (penyelidik)*Precautions measures (researchers)* |  |
|  |  |[ ]  Lain-lain (Sila lihat Bahagian 3.4 )*Others (Please see Section 3.4)* |  |
|  | 3.1.2 | Kaedah pengekangan haiwan (Nyatakan)*Method of animal restraint (Specify)* |
|  |  |[ ]  Manual*Manual* |  |
|  |  |[ ]  Mekanikal*Mechanical* |  |
|  |  |[ ]  Kimia*Chemical* |  |
|  |  |[ ]  Dadah*Drug* |  |  |
|  |  |  |  | Dos*Dose* |  |  |
|  |  |  |  | Cara administrasi*Route of administration* |  |  |
|  |  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |  |
|  | 3.1.3 | Kekerapan mengekang haiwan *Frequency of animal restraint*  |
|  |  |[ ]  Setiap jam*Hourly* |[ ]  Setiap hari*Daily* |
|  |  |[ ]  Setiap minggu*Weekly* |[ ]  Setiap bulan*Monthly* |
|  |  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |  |
|  | 3.1.4 | Kekerapan pemantauan haiwan*Frequency of animal monitoring* |
|  |  |[ ]  Setiap hari*Daily* |[ ]  Selang hari*Alternate days* |
|  |  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |  |
|  | 3.1.5 | Kaedah pemantauan haiwan*Method of animal monitoring* |
|  |  |[ ]  Pemerhatian tampakan/klinikal*Visual/clinical observation* |
|  |  |[ ]  Menimbang berat*Weighing* |
|  |  |[ ]  Pemeriksaan fizikal*Physical examination* |
|  |  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |
|  | 3.1.6 | Kekerapan pemantauan pasca-tatacara (pembedahan, suntikan intravena dll)*Frequency of monitoring post-procedure (surgery, intravenous injection etc)* |
|  |  |[ ]  Setiap jam*Hourly* |[ ]  Setiap hari*Daily* |
|  |  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |
|  | 3.1.7 | Pemantauan pasca-tatacara*Post-procedure monitoring* |
|  |  |[ ]  Pemerhatian tampakan/klinikal*Visual/clinical observation* |
|  |  |[ ]  Menimbang berat*Weighing* |
|  |  |[ ]  Suhu*Temperature* |
|  |  |[ ]  Pemeriksaan fizikal*Physical examination* |
|  |  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |
|  | 3.1.8 | Nasib haiwan yang sakit*Fate of sick animal* |
|  |  |[ ]  Rawat*Treat* |[ ]  Mematikan*Sacrifice* |
|  | 3.1.9 | Jika anda memutuskan untuk merawat haiwan yang sakit, nyatakan kaedah rawatan yang diberikan.*If you decide to treat a sick animal, describe the method of management/treatment.* |
|  |  |
|  | 3.1.10 | Jika anda memutuskan untuk mematikan haiwan yang sakit, pilih kaedah perikemanusian yang digunakan. *If you decide to sacrifice a sick animal, choose a method of humane killing.*  |
|  |  |[ ]  Dislokasi tulang servikal*Cervical dislocation* |
|  |  |[ ]  Mandian ais *Cold stunning in ice water/Freezer/Liquid Nitrogen* |
|  |  |[ ]  Penyahairan*Dewatering* |
|  |  |[ ]  Infusi CO2 dalam air*CO2 infusion in water* |
|  |  |[ ]  Dos lewah dadah (Nyatakan)*Drug overdose (Specify)* |
|  |  |  |  | Dadah*Drug* |  |
|  |  |  |  | Dos*Dose* |  |
|  |  |  |  | Cara administrasi*Route of administration* |  |
|  |  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |

|  |  |
| --- | --- |
| **3.2** | **Tatacara pembedahan*****Surgical procedures*** |
|  | 3.2.1 | Kategori*Category* |
|  |  |[ ]  Pembedahan berakhir dengan kematian; haiwan dieutanasia.*Non-survival surgery; animal euthanised.* |
|  |  |[ ]  Pembedahan minor. Tiada penembusan pada kaviti utama badan.*Minor surgery. No penetration to the main body cavity.* |
|  |  |[ ]  Pembedahan major. Terdapat penembusan pada kaviti badan.*Major surgery. Penetration to a major body cavity.* |
|  |  |[ ]  Pembedahan major. Terdapat penembusan pada kaviti badan yang mengakibatkan kemerosotan fizikal dan fungsi.*Major surgery. Penetration to a major body cavity which results in permanent physical of functional impairment.* |
|  | 3.2.2 | Terangkan tatacara pembedahan secara terperinci.*Describe the surgical procedure in detail.* |
|  |  |
|  | 3.2.3 | Lokasi kemudahan pembedahan.*Location of the surgery facilities.* |
|  |  |
|  | 3.2.4 | Anestesia/Analgesia/Ubat penenang*Anaesthesia/Analgesia/Tranquilisers* |
|  |  | Agen*Agent* | Dos*Dose* | Cara*Route* | Kekerapan*Frequency* |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | 3.2.5 | Kriteria penilaian anestesia*Criteria of anaesthesia assessment* |
|  |  |[ ]  Kadar respirasi*Respiratory rate* |[ ]  Kadar denyut jantung*Heart rate* |
|  |  |[ ]  ECG*ECG* |[ ]  Relaksasi otot*Muscular relaxation* |
|  |  |[ ]  Picitan ekor*Tail pinch* |[ ]  Refleks kornea*Corneal reflex* |
|  |  |[ ]  Lain-lain (oksimeter denyut, respirator)*Others (pulse oximeter, respirator)* |  |
|  | 3.2.6 | Penilaian kesakitan dan ketidakselesaan pasca-pembedahan. *Assessment of pain and discomfort post-surgical procedures.* |
|  |  |[ ]  Hilang selera makan*Loss of appetite* |[ ]  Kemerosotan berat badan*Loss of weight* |
|  |  |[ ]  Kegelisahan*Restlessness*  |[ ]  Postur rehat tak normal*Abnormal resting posture* |
|  |  |[ ]  Perubahan daya gerak*Change of mobility* |[ ]  Gagal menunjukkan sifat ingin tahu*Failure to show natural inquisitiveness* |
|  |  |[ ]  Tiada tindak balas*Unresponsiveness* |[ ]  Kesukaran bernafas *Laboured breathing* |
|  |  |[ ]  Perubahan pada tampakan (Sila nyatakan:)*Change in physical appearance* |  |  |
|  |  |  | (*Please indicate:* ) |  |
|  | 3.2.7 | Terangkan penjagaan pasca-pembedahan.*Describe post-surgical care.* |
|  |  |
|  | 3.2.8 | Kaedah mematikan haiwan secara perikemanusiaan. *Method of humane killingof animals.* |
|  |[ ]  Dislokasi tulang servikal*Cervical dislocation* |
|  |[ ]  Mandian ais *Cold stunning in ice water/Freezer/Liquid Nitrogen* |
|  |[ ]  Penyahairan*Dewatering* |
|  |[ ]  Infusi CO2 dalam air*CO2 infusion in water* |
|  |[ ]  Dos lewah dadah (Nyatakan)*Drug overdose (Specify)* |
|  |  |  | Dadah*Drug* |  |
|  |  |  | Dos*Dose* |  |
|  |  |  | Cara administrasi*Route of administration* |  |
|  |[ ]  Lain-lain (Nyatakan)*Others (Specify)* |  |
|  | 3.2.9 | Terangkan akhiran kajian ini (sekiranya berbeza daripada perancangan awal). Contoh: Dibuang /dimakan selepas tamat masa luput bahan ubatan dalam badan akuatic...*Describe the end-point of the study (at what instance would you sacrifice the animal, if there is any difference from the original plan) E.g. Disposed / consumed after withdrawal period….* |
|  |  |
| **3.3** | **Penggunaan Bahan Berbahaya (jika berkaitan).*****Use of hazardous agents (if applicable).*** |
|  | 3.3.1 | Adakah bahan berbahaya digunakan?*Is any of the hazardous agents used?*  |[ ]  Ya*Yes* |[ ]  Tidak*No* |
|  |  | Jika Ya, teruskan dengan soalan berikutnya.*If yes, please proceed to the following questions.* |
|  | 3.3.2 | Jenis bahan berbahaya.*Types of hazardous agents.* |
|  |  |[ ]  Organisma patogen*Pathogenic organism* |
|  |  |  | Nama patogen*Name of pathogen* |  |
|  |  |[ ]  Karsinogen kimia*Chemical carcinogen* |
|  |  |  | Nama karsinogen kimia*Name of chemical carcinogen* |  |
|  |  |  | Dos*Dose* |  |
|  |  |  | Cara administrasi*Route of administration* |  |
|  |  |  | Kekerapan*Frequency* |  |
|  |  |[ ]  RNA/DNA rekombinan*Recombinant RNA/DNA* |
|  |  |[ ]  Bahan radioaktif*Radioactive material* |
|  |  |  | Nama*Name* |  |
|  |  |  | Dos*Dose* |  |
|  |  |  | Hayat simpan*Shelf-life* |  |
|  |  |  | Cara administrasi*Route of administration* |  |
|  |  |  | Kekerapan*Frequency* |  |
|  | 3.3.3 | Terangkan bagaimana bahan berbahaya digunakan (**Sila lampirkan dokumen yang berasingan**).*Describe how the hazardous agents are utilized (****Please attach as a separate document****).* |
|  | 3.3.4 | Terangkan tatacara pembendungan biokeselamatan (**Sila lampirkan dokumen yang berasingan**).*Describe the biosecurity containment procedures (****Please attach as a separate document****).* |
|  | 3.3.5 | Terangkan bagaimana pelupusan sisa air dan haiwan dilakukan (**Sila lampirkan dokumen yang berasingan**).*Describe the disposal of the used animals and waste water (****Please attach as a separate document****).* |
| **3.4** | Untuk penggunaan bahan toksik atau organisma patogen surat kelulusan Jawatankuasa Keinstitusian Biokeselamatan UKM atau mana-mana pihak bertanggungjawab mesti dikemukakan.*On the use of toxic materials as well as pathogenic organism, an approval letter from the UKM Institutional Biosafety Committee or any authority must be provided.* |
|  |[ ]  Dikemukakan*Attached* |[ ]  Tidak berkenaan*Not applicable* |
| **3.5** | **Jenis lain eksperimen (jika berkaitan).*****Other types of experiments (if applicable).*** |
|  |[ ]  Bahan/peranti implan*Implanted devices/material* |
|  |  | Saiz implan*Size of implant* |  |
|  |  | Lokasi implan peranti *Location of implanted devices* |  |
|  |  | Tempoh*Duration* |  |
|  |[ ]  Paralisis saraf-otot*Neuromuscular paralysis* |
|  |  | Lokasi*Location* |  |
|  |  | Kaedah*Method* |  |
|  |  | Tempoh*Duration* |  |
|  |[ ]  Imobilisasi-elektro*Electro-immobilisation* |
|  |  | Jenis instrumen*Type of instrument* |  |
|  |  | Tempoh*Duration* |  |
|  |  | Saiz voltan*Voltage size* |  |
|  |[ ]  Ujikaji toksikologi*Toxicology experiment* |
|  |  | Senaraikan sebatian dalam kertas yang berasingan sekiranya anda menggunakan lebih dari satu sebatian. Terangkan sumber, kepekatan, dll. secara terperinci. Sila penuhkan Bahagian 3.3. *List the compound in a separate sheet if the compound is more than one. Describe in detail, source, concentration and etc.* *Fill up Section 3.3I.*  |
|  |[ ]  Ujikaji menggunakan janin/embrio (Sila lampirkan dokumen yang berasingan).*Foetal/Embryo experimentation (Please attach as a separate document).* |
| **3.6** | **Pengalaman dan kompetensi dalam tatacara pengendalian haiwan akuatik.*****Experience and competency in handling aquatic animal procedures.*** |
|  | 3.6.1 | Adakah anda berpengalaman dalam mengendalikan haiwan kajian **akuatik**? *Have you had any experience in handling* ***aquatic*** *animals?*  |
|  |  |[ ]  Ya (Sila berikan bukti)*Yes (Please provide an evidence)* |[ ]  Tidak*No* |
|  | 3.6.2 | Adakah anda mempunyai kakitangan yang kompeten dalam pengendalian haiwan **akuatik**? *Do you have competent staff in handling* ***aquatic*** *animals?* |
|  |  |[ ]  Ya*Yes* |[ ]  Tidak*No* |
| **3.7** | **Tatacara pilihan.*****Alternative procedure.*** |
|  | 3.7.1 | Adakah tatacara pilihan telah dikenalpasti?*Has alternatives to the procedures to the animals been searched for?* |
|  |  |[ ]  Ya*Yes* |[ ]  Tidak*No* |
|  | 3.7.2 | Jika ya, sila sertakan bukti yang menyokong pernyataan anda (laman sesawang, jurnal, dll.)*If yes, please provide evidence/reference to support your claim. (websites, journals etc*) |
|  |  |

**BAHAGIAN 4: PENGELASAN PROJEK DAN KELULUSAN**

***SECTION 4: PROJECT CLASSIFICATION AND APPROVAL***

|  |  |
| --- | --- |
| **4.1** | **Pengelasan Projek (pilih yang berkenaan)*****Project Classification (select where applicable)*** |
|  | [ ]  | A | Tatacara dijalankan tanpa penggunaan anestesia dan agen kimia.*Procedure carried out without the use of anaesthesia and chemical agents.* |
|  |[ ]  B | Tatacara dijalankan di bawah pengaruh anestesia dan haiwan dimatikan.*Those procedures carried out under anaesthesia and the animal killed without regaining consciousness.* |
|  |[ ]  C | Projek biakbaka.*Breeding project.* |
|  |[ ]  D | Projek yang memerlukan haiwan dimatikan untuk pengambilan seluruh karkas haiwan atau sebahagian tisu selepas ujikaji dijalankan.*Projects requiring animals to be killed for the preparation of whole animal carcass or tissue specimens with prior experimentation.* |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **4.2** | Pengesahan veterinawan bertugas*Verification of attending veterinarian*Tandatangan/*Signature*:Cop/*Stamp*:Nombor APC/*APC number*:(Sangat digalakkan/*highly recommended*) |

**BAHAGIAN 5: PERAKUAN DAN KELULUSAN**

***SECTION 5: ENDORSEMENT AND APPROVAL***

|  |  |
| --- | --- |
| **5.1** | **PERAKUAN PENYELIDIK/PEMOHON*****RESEARCHER/APPLICANT ENDORSEMENT*** |
|  | ........................................................Tandatangan & Cop Ketua Penyelidik *Signature & Stamp of Lead Researcher* | ………………………………………...........Tarikh*Date*  |
| **5.2** | **PERAKUAN KETUA JABATAN** ***HEAD OF DEPARTMENT ENDORSEMENT*** |
|  | .........................................................Tandatangan & Cop Ketua Jabatan *Signature & Stamp of Head of Department* | ………………………………………...........Tarikh*Date*  |

|  |  |
| --- | --- |
| **5.3** | **KEPUTUSAN JAWATANKUASA ETIKA HAIWAN UKM (UKMAEC)*****DECISION OF UKM ANIMAL ETHICS COMMITTEE (UKMAEC)***…………………………………………………………………………………………………………………………………………........…………………………………………………………………………………………………………………………………………......…………………………………………………………………………………………………………………………………………...... |
| **5.4** | **NO. KOD KELULUSAN*****NO. APPROVAL CODE***  |
|  |  |
|  | .........................................................Tandatangan & Cop Sekretariat UKMAEC *Signature & Stamp of UKMAEC Secretariat* | ………………………………………...........Tarikh*Date*  |
|  | .........................................................Tandatangan & Cop Pengerusi UKMAEC *Signature & Stamp of UKMAEC Chairperson* | ………………………………………...........Tarikh*Date*  |