1. **PEMOHON (PENYELIDIK UTAMA)**

***APPLICANT (LEAD RESEARCHER)***

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| --- | --- | --- |
| 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*

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| 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)***

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

1. **PELAJAR**

***STUDENTS***

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| **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***

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

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| **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***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **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* | | | | | | | |

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|  | 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 nilai  Water 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* | | | | | | | | | | |
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| **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.*

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| **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)* | | | | | |  | | | | | |

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| **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* |
|  |  | |  | |  |  |  |
|  |  | |  | |  |  |  |
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|  | 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***

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| **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.* |

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| **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* |

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| **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* |