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| **BORANG PERMOHONAN**  **GERAN UNIVERSITI PUTRA MALAYSIA**  Tiga (3) salinan borang ini mesti diserahkan kepada Pusat Pengurusan Penyelidikan, Aras 5 Pejabat TNCPI, Universiti Putra Malaysia, 43400 Serdang, Selangor  *Three (3) copies of this form must be submitted to the Research Management Centre, Level 5 TNCPI Office, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor* | | | | | | | | | | | | | | | | | | | |
| 1. **MAKLUMAT PERMOHONAN GERAN PENYELIDIKAN** *INFORMATION OF RESEARCH GRANT APPLICATION* | | | | | | | | | | | | | | | | | | | |
| 1. **Tajuk penyelidikan yang dicadangkan:**   *Title of proposed research:* | | | |  | | | | | | | | | | | | | | | |
| 1. **Geran dipohon:**   *Grant applied for:* | | | | **🞎** Geran Inisiatif Putra  **🞎** Geran Putra IPB (Sub-Projek)  **🞎** Geran Putra IPM  **🞎** Geran Putra IPS  **🞎** Geran Putra Berimpak  **🞎** Geran Penyelidikan Pembangunan Inovasi | | | | | | | | | | | | | | | |
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| 1. **MAKLUMAT KETUA PROJEK/PENYELIA PELAJAR**  *DETAILS OF PROJECT LEADER / SUPERVISOR* | | | | | | | | | | | | | | | | | | | |
| Sila lampirkan C.V. ketua projek mengikut format yang disediakan  *Please attach C.V. of Project Leader/Supervisor according to the following format)* | | | | | | | | | | | | | | | | | | | |
| 1. **Nama Ketua Projek/Penyelia:**   *Name of Project Leader/Supervisor* | | |  | | | | | | | | | | | | | | | | |
| 1. **No. Mykad/Passport:**   *Mykad no./Passport* | | |  | | | | | | | | | 1. **No. staf:**   *Staff no.* | | | | | |  | |
| 1. **Jawatan** (Sila tanda):   *Designation (Please tick)* | | | **🞎** | | Professor  *Professor* | | | | | **🞎** | Professor Madya  *Associate Professor* | | | | | | | **🞎** | Pensyarah Kanan  *Senior Lecturer* |
| **🞎** | | Pensyarah  *Lecturer* | | | | | **🞎** | Lain-lain (sila nyatakan)  *Others (Please state) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* | | | | | | | | |
| 1. **PTJ** (Sila nyatakan alamat penuh):   *PTJ (Please provide full address):* | | |  | | | | | | | | | | | | | | | | |
| 1. **No. telefon pejabat:**   *Office Ttelephone no.* | | |  | | | | | | 1. **No. telefon bimbit:**   *Mobile phone no.* | | | | | | | |  | | |
| 1. **Alamat e-mel:**   *E-mail address* | | |  | | | | | | | | | | | | | | | | |
| 1. **Kelayakan Akademik / Kelayakan Tertinggi Professional** | | |  | | | | | | | | | | | | | | | | |
| 1. **Status perkhidmatan:**   *Status of service* | | | □ | | Tetap  *Permanent* | | | | | | | | | | | | | | |
| □ | | Kontrak  *Contract*  Tarikh tamat kontrak:  *Contract expiry date -----------------------------------------------------* | | | | | | | | | | | | | | |
| 1. **Tarikh lantikan jawatan sekarang:**   *Date of appointment* | | |  | | | | | | | | | | | | | | | | |
| 1. **Senarai Penerbitan (dalam tempoh 3 tahun) :** \*(Sila lampirkan salinan muka hadapan penerbitan)   *List of publications (in 3 years): \*(Please attach front page of publication)* | | | | | | | | | | | | | | | | | | | |
| **Bil.**  *No.* | **Tajuk** *Title* | | | | | ***Peranan***  *Role Corresponding author / Co-author* | | **ISI / Scopus / Bukan Indeks** *ISI / Scopus / Non Indeks* | | | | | | **Quartile** | | **Status**  (Accepted / /Submitted) | | | **Tahun Diterbitkan**  *Year of publication* |
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| 1. **MAKLUMAT PENYELIDIKAN** *RESEARCH INFORMATION* | | | | | | | | | | | | | | | | | | | |
| 1. **Kluster Penyelidikan**   *Research**Cluster* | |  | | | | | | | | | | | | | | | | | |
| 1. **Bidang/Program Penyelidikan**   *Field/Program of research* | |  | | | | | | | | | | | | | | | | | |
| 1. **Tempoh Penyelidikan** *Duration of research* | |  | | | | | | | | | | | | | | | | | |
| 1. **Tarikh Mula**   *Start date* | |  | | | | | | | | | | | | | | | | | |
| 1. **Tarikh Tamat**   *End date* | |  | | | | | | | | | | | | | | | | | |
| 1. **Tempat penyelidikan dijalankan**   *Location of research* | |  | | | | | | | | | | | | | | | | | |
| 1. **Penyelidik lain yang terlibat dalam projek (termasuk pelajar pasca siswazah):** \*(Sila lampirkan C.V. setiap penyelidik mengikut format yang disediakan)   *Other researchers involved in the project (including post-graduate): \*(Please attach CV of each researcher according to the format provided)* | | | | | | | | | | | | | | | | | | | |
| **Bil.**  *No.* | **Nama**  *Name* | | | | | | **No. Mykad / Passport / No matrik**  *Mykad no /Passport / Matric no* | | | | | | **Institusi / PTJ** | | **Kelayakan akademik/Pelantikan/**  **Bidang pengajian**  *Academic qualifications/*  *Designation/Field of study* | | | | **Tandatangan**  *Signature* |
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| 1. **Mentor**(untuk Geran Putra-IPM) **/ Penyelia Utama (**untuk Geran Putra-IPS) sahaja   *Mentor (for Geran Putra-IPM) / Main Supervisor (for Geran Putra-IPS) only* | | | |
| Nama  *Name* |  | | |
| Bidang pengkhususan  *Field of specialisation* |  | | |
| Tandatangan dan cop rasmi  *Signature and official stamp* |  | | |
| 1. **Butiran Pelajar Siswazah (**untuk Geran Putra-IPS) sahaja   *Student Details (for Geran Putra-IPS) only* | | | |
| Nama:  *Name:* |  | | |
| Nombor Matrik:  *Matrix Number:* |  | Peringkat Pengajian  *Level of Studies:* | PhD / Master |
| Semester Pengajian |  | | |
| Tandatangan  *Signature* |  | | |

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| 1. **RINGKASAN CADANGAN EKSEKUTIF PENYELIDIKAN** *EXECUTIVE SUMMARY OF RESEARCH PROPOSAL* |
| Rumusan latar belakang penyelidikan, kajian literatur, kaedah penyelidikan,objektif, rancangan penyelidikan dan jangkaan hasil penyelidikan) - maksimum 300 patah perkataan  *Executive Summary of research background, literature review, objectives, research methodology, research plan and expected outcomes of the research project and future directions) - maximum 300 words* |
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| 1. **PERINCIAN CADANGAN MAKLUMAT PENYELIDIKAN** *DETAILED PROPOSAL OF RESEARCH PROJECT* |
| 1. **Latar belakang penyelidikan termasuk hipotesis/persoalan penyelidikan dan kajian literatur**   *Research background including hypothesis /research questions and literature review* |
| 1. **Penyelidikan lepas yang berkaitan (sila lampirkan sekiranya perlu)**   *Past relevant research (please attach, if necessary)*   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Tajuk penyelidikan**  *Title of research* | ***Nama Geran***  *Name of grant* | **Jawatan / Peranan** *Position / Role* | **Tempoh** *Duration* | **Tarikh mula** *Start date* | **Tarikh tamat**  *End date* | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |
| 1. **Objektif penyelidikan**   *Research objective(s)* |
| 1. **Kaedah penyelidikan**   *Research methodology*  Sila nyatakan dan huraikan; *Please state in the;*   1. Huraian Kaedah   *Description of methodology*   1. Milestones dan tarikh   *Milestones and dates*   |  |  |  | | --- | --- | --- | | **Milestones** | **Tarikh Mula** | **Tarikh Tamat** | |  |  |  | |  |  |  | |  |  |  | |  |  |  |  1. Carta alir aktiviti penyelidikan (Sila sertakan di dalam Lampiran)   *Flow chart of research activities (Please enclose in the appendix)*   1. Carta Gantt aktiviti penyelidikan (Sila sertakan di dalam Lampiran)   *Gantt chart of research activities (Please enclose in the appendix)* |

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| 1. **MAKLUMAT PENYELIDIKAN PEMBANGUNAN TEKNOLOGI** *INFORMATION ABOUT**THE**TECHNOLOGY DEVELOPMENT RESEARCH*   (untuk Geran Penyelidikan Pembangunan Inovasi sahaja) | |
| 1. **Penyelidikan pembangunan teknologi adalah lanjutan daripada geran**   *Technology development research is a continuation from (please state the relevant grant):* |  |
| 1. **No. Pendaftaran Harta Intelek**   *Registration number of the related Intelectual Property* |  |
| **3. Nyatakan latar belakang kajian termasuk ringkasan dari kajian terdahulu yang berkaitan dengan pembangunan teknologi.**  *Describe the background, including a summary of previous research related to the proposed technology development.* | |
| **4. Nyatakan permasalahan penyelidikan.**  *Describe the research problem.* | |
| **5. Huraikan tentang keaslian, inovasi, ciri-ciri khas dan strategi anda ke arah meningkatkan daya saing anda.**  *Describe the prototypes’ originality, innovation, special features, and your strategy towards increasing competitiveness.* | |
| **6. Huraikan bagaimana pembangunan teknologi dapat menyumbang dalam meningkatkan penciptaan, kualiti hidup, mencipta atau memperkukuhkan industri-industri baru.**  *Describe how the developed technology can contribute to wealth creation, enhancement of quality of life and creation or strengthening of new industries.* | |
| **7. Huraikan perjalanan pembangunan teknologi untuk ke arah pengkomersilan.**  *Describe your road map towards bringing the technology from development to commercialization.* | |

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| 1. **JANGKAAN HASIL/FAEDAH** *EXPECTED RESULTS/BENEFITS* |
| 1. **Penerbitan penyelidikan** **(Sila nyatakan jangkaan tarikh penerbitan dalam jurnal)**   *Research publications (Please state the expected date of publication in journals)* |
| 1. **Teori baharu/Penemuan baharu/Pengetahuan/Ciptaan/Inovasi**   *New theories/New findings/Knowledge/Invention/Innovation* |
| 1. **Penggunaan khusus atau potensi**   *Specific or potential applications* |
| 1. **Bilangan pelajar Master dan Ph.D (melalui penyelidikan)**   *Number of Ph.D and Masters (by research) that will be produced* |

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| 1. **PELEPASAN ETIKA DAN PENGISYTIHARAN WMD** *ETHICS CLEARANCE AND DECLARATION OF WMD* |
| 1. **Adakah projek ini berkaitan penggunaan manusia, haiwan, GMO atau LMO yang memerlukan pelepasan etika?**   *Does the project need to obtain ethical clearance due to the use of human, animal, GMO and LMO?*  **🞎 Ya** Yes  **🞎 Tidak** No   1. **Jika Ya, sudahkah projek ini mendapatkan pelepasan etika?**   *If Yes, does the project obtained ethical clearance?*  **🞎 Ya** Yes  **🞎 Tidak** No |
| 1. **Adakah projek ini melibatkan eksport, trans penghantaran, transit dan pembrokeran barangan strategik, termasuk senjata dan bahan berkaitan, dan aktiviti lain yang akan atau boleh memudahkan reka bentuk, pembangunan dan pengeluaran WMD (Weapons of Mass Destruction) dan sistem penyampaiannya. Untuk maklumat lanjut sila rujuk laman web Kementerian Perdagangan Antarabangsa dan Industri di www.miti.gov.my**   *Does the project involve export, transshipment, transit and brokering of strategic items, including arms and related material, and other activities that will or may facilitate the design, development and production of WMD (Weapons of Mass Destruction) and their delivery systems. For more information, please refer to the Ministry of International Trade and Industry website at www.miti.gov.my.*  **🞎 Ya** Yes  **🞎 Tidak** No |

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| 1. **BELANJAWAN** *BUDGET* | | | |
| **Sila anggarkan belanjawan untuk penyelidikan ini dan butiran perbelanjaan (berserta justifikasi) dengan merujuk kepada garis panduan yang telah dilampirkan.**  *Please indicate the estimated budget for the research and details of expenditure (provide justification) according to the guidelines attached.* | | | |
| **Butiran belanjawan**  *Budget details* | **Jumlah yang diminta oleh pemohon**  *Amount requested by applicant* | | |
| **Tahun 1**  *Year 1* | **Tahun 2**  *Year 2* | **Tahun 3**  *Year 3* |
| **Vote 11000 Gaji dan upahan** *Salary and wages* (Tidak terpakai untuk Geran Putra-IPM dan Putra-IPS*)*  *(Not applicable for Geran Putra-IPM and Putra-IPS )* |  |  |  |
| **Vote 21000 Perbelanjaan perjalanan dan pengangkutan** *Travel expenses and transportation* Butiran & Justifikasi *Details & Justification*: |  |  |  |
| **Vote 24000 Sewaan** *Rental* Butiran & Justifikasi *Details & Justification*: |  |  |  |
| **Vote 26000 Bekalan bahan penyelidikan** serta bekalan bahan mentah dan bahan-bahan untuk penyenggaraan dan pembaikan *\**termasuk vot 27000. *Research materials and materials for repair and maintenance\*including vote 27000* Butiran & Justifikasi *Details & Justification*: |  |  |  |
| **Vote 28000 Penyelenggaraan dan pembaikan kecil** *Maintenance and minor repair services*  Butiran & Justifikasi *Details & Justification*: |  |  |  |
| **Vote 29000 Perkhidmatan profesional, hospitaliti dan lain-lain** *Professional services, hospitality, and other services* Butiran & Justifikasi *Details & Justification*: |  |  |  |

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| **Butiran belanjawan**  *Budget details* | **Jumlah yang diminta oleh pemohon**  *Amount requested by applicant* | **Butiran belanjawan**  *Budget details* | **Jumlah yang diminta oleh pemohon**  *Amount requested by applicant* |
| **Tahun 1**  *Year 1* | **Tahun 2**  *Year 2* | **Tahun 3**  *Year 3* |
| **Vote 35000** Peralatan dan aksesori *Equipment and accessories*  ***Sila rujuk garispanduan untuk keterangan lanjut***  ***(Please refer to guidelines for more information)*** |  |  |  |
| Alat 1 :Justifikasi: |  |  |  |
| Alat 2 :Justifikasi |  |  |  |
| Alat 3 :Justifikasi: |  |  |  |
| **Bajet tahunan yang dicadangkan**  *Proposed annual budget* |  |  |  |
| **JUMLAH KESELURUHAN**  *TOTAL AMOUNT* |  | | |

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| **I.** | **AKUAN PEMOHON** *DECLARATION BY APPLICANT* |
|  | ***Saya dengan ini mengaku bahawa:***  *I hereby declare:*  **Semua maklumat yang diberi adalah benar. Penaja berhak menolak permohonan atau membatalkan tawaran pada bila-bila masa sekiranya keterangan yang dikemukakan adalah tidak benar.**  *All information stated herein is true. The funder has the right to reject or withdraw the offer without prior notice if there is any inaccurate information given.*    **Tarikh : Tandatangan pemohon : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  *Date : Applicant’s signature* **:** |
| **Nota** *Notes:*   1. C.V. penyelidik-penyelidik hendaklah mengandungi maklumat berkaitan dengan penyelidikan contohnya senarai projek yang sedang dilaksanakan dan tamat, agensi-agensi yang membiayai, jumlah dana diterima, senarai penerbitan, senarai penuntut ijazah lanjutan yang telah menamatkan pengajian dan hasil-hasil penyelidikan lain.   *The C.V.s of researchers should contain information relevent to research e.g. list of completed and ongoing projects, funding agencies, amount of funding received, list of publications, list of post-graduate students graduated, and other research output.* | |

**Contoh: Carta Gantt Aktiviti Penyelidikan, Milestone dan Tarikh**

*Example: Gantt Chart of Research Activities, Milestones and Dates*

**Tajuk penyelidikan dicadangkan:**

*Title of proposed research:*

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| Year | 2011 | | | | | | | | | | | | 2012 | | | | | | | | | | | | 2012 | | 2013 | |
| Project activities | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | S1 | S2 | S1 | S2 |
| 1. Project implementation plan write up |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Hyper-spectral data airbone mission |  | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Satellite data acquisition (new tasking) |  |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Field data collection & compilation |  |  |  | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Data processing and analysis bio-D characterization |  |  |  |  |  | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Development of Bio-change detection algorithm |  |  |  |  |  |  |  |  |  | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Development of DST |  |  |  |  |  |  |  |  |  |  |  |  |  | | | | | |  |  |  |  |  |  |  |  |  |  |
| 8. Organize workshop |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |
| 9. Final report |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| Year | 2011 | | | | | | | | | | | | 2012 | | | | | | | | | | | | 2012 | | 2013 | |
| Project (Milestone) | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | S1 | S2 | S1 | S2 |
| 1. Complete BIO-D Characterization |  |  |  |  |  |  |  |  |  |  |  | ⬧ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Complete Bio-Change Algorithm |  |  |  |  |  |  |  |  |  |  |  |  | ⬧ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Complete DST development |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ⬧ |  |  |  |  |  |  |  |  |  |
| 4. Complete Seminar |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ⬧ |  |  |  |  |  |  |  |  |
| 5. Complete project report |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ⬧ |  |  |  |  |  |  |  |
| 6. Project completion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ⬧ |  |  |  |  |  |  |

Nota: Tempoh maksimum lanjutan projek ialah selama 6 bulan (S1) dan tambahan lagi enam bulan (S2)

*Maximum duration of project extension is up to six months (S1) and followed up by another six months (S2).*