



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/M.TECH (PBIR) (OLD)/SEM-3/MBT-301/2012-13  
2012**

**IPR AND BIOSAFETY**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**IPR**

1. Answer any *ten* of the following : 10 × 1 = 10

- a) What is Property ?
- b) What is Intellectual Property ?
- c) What is Copyright ?
- d) What is Trade Mark ?
- e) What is Geographical Indication ?
- f) What is Traditional Knowledge ?
- g) What is Bio-piracy ?
- h) What is Utility ?

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[ Turn over



- i) What is State of the Art ?
  - j) Who is a person skilled in the art ?
  - k) What is Public Domain ?
  - l) What is Design ?
2. Answer any *three* of the following :  $3 \times 5 = 15$
- a) What is Patent ? What are the essential features of Patent ? What is the objectives of Patent ?  $1 + 2 + 2$
  - b) What is Novelty and how to determine Novelty ?  $2 + 3$
  - c) What is Inventive Step and how to determine Inventing Step ?  $2 + 3$
  - d) What is the procedure for granting of Patent ?
3. Answer any *one* of the following :  $1 \times 10 = 10$
- a) Pradip has invented a chemical which relaxes uterus during child birth. Is it patentable ? Pradip has also invented synthetic heart. Is it patentable ?  $5 + 5$
  - b) A patent application is related to a process for extracting Neem oil from Neem seeds comprising the following steps :
    - i) Treating crushed Neem seeds in a solvent at a temperature between 40-60 degree Celsius to obtain oil cake free from bitter and odoriferous constituents.
    - ii) Drying the oil cake by solvent extraction having 80-90% ethanol concentration. The opposition filed on the basis of prior published document from a book entitled 'Oil Extraction' disclosing therein extraction of seed with 70% of alcohol to remove bitter and odoriferous compounds to recover good quality of oil.

Examine novelty and inventive step criteria.

**BIOSAFETY**  
**GROUP – A**

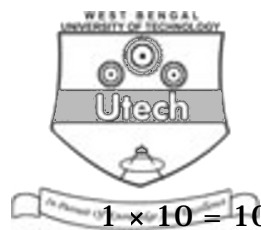


4. Answer of fill in the blanks any *five* questions :  $5 \times 2 = 10$

- a) ..... were the first organisms to be modified in the laboratory, due to their simple .....
- b) Cisgenesis, sometimes also called ....., is a product designation for a category of genetically engineered .....
- c) Define Primary and Secondary containments.
- d) What precautions are to be taken to handle canine hepatitis ?
- e) Biosafety level 2 is suitable for work involving ....., ....., ..... etc.
- f) What are the four most important risk areas which need to be considered in the use of transgenic ?
- g) What is EPA and in which year was this established ?

5. Write short notes on any *three* of the following :  $3 \times 5 = 15$

- a) Safety equipment for primary barriers
- b) First and most famous LMO case
- c) MOEF and GEAC
- d) Impact of GMO on human health.



**GROUP – B**

Answer any *one* question :

$1 \times 10 = 10$

6. a) Select appropriate Biosafety levels to classify following microbes :
- i) *C. difficile*
  - ii) West Nile virus
  - iii) Marburg virus
  - iv) *Coxiella burnetii*
  - v) *Rickettsia rickettsii*.
- b) What is basis to implement 'Biosafety level 4' to install a microbiological laboratory ?
- c) Elaborate major points to highlight necessary precautions to be taken when dealing with biological hazards at this level. 5 + 2 + 3
7. a) Define specific roles of DBT and MOEF in 'Biosafety guidelines' formed by the Govt. of India.
- b) "Experiments with microorganisms, plants and animals are grouped into three categories to flow guidelines and regulations of Govt. of India." Explain.
- c) Name two herbicides for which genetically modified plants have been cultivated to make them resistant to virus damage.
- d) Fill in the blanks :
- ..... virus resistant GM papaya, are grown in ..... of USA. 2 + 3 + 3 + 2
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