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 ?

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 × 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 × 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 × 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 × 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 × 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