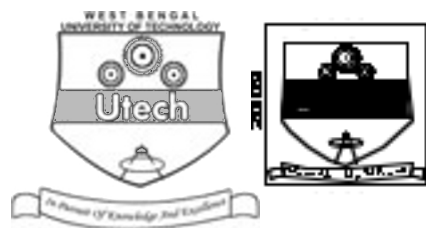


GENETIC ENGINEERING IN BUSINESS (SEMESTER - 4)

CS/M.Sc (Genetics)/SEM-4/MSGEN-401/09



1.
Signature of Invigilator

2.
Signature of the Officer-in-Charge

Reg. No.

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CS/M.Sc (Genetics)/SEM-4/MSGEN-401/09

ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

GENETIC ENGINEERING IN BUSINESS (SEMESTER - 4)

Time : 3 Hours]

[Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.
b) For **Groups – B & C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

| Group – A | | | | | | | | Group – B | | | | Group – C | | | | Total Marks | Examiner's Signature |
|--------------------|--|--|--|--|--|--|--|-----------|--|--|--|-----------|--|--|--|----------------|-------------------------|
| Question Number | | | | | | | | | | | | | | | | | |
| Marks Obtained | | | | | | | | | | | | | | | | | |

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Head-Examiner/Co-Ordinator/Scrutineer

35006 (19/06)



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ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

GENETIC ENGINEERING IN BUSINESS

SEMESTER - 4



Time : 3 Hours]

[Full Marks : 70

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

i) Classical Biotechnology era has been started since Brewing beer in B.C. is

a) 8000 b) 6000

c) 4000 d) 2000.

ii) Producing vaccines has been started since

a) 1760 b) 1800

c) 1900 d) 2000.

iii) Developing genetically modified plants has been started since

a) 1950 b) 1990

c) 2005 d) 2007.

iv) Currently 58.7 million hectare land has grown GM crops by 6.0 million farmers of countries.

a) 12 b) 16

c) 30 d) 50.



4

v) Genetically modified rice known as Golden Rice is made by transgenes from

a) bacteria

b) bacteria and daffidol

c) plant

d) none of these.



vi) Economic effect of Bt Cotton in China has shown in \$/acre increase

a) \$100

b) \$200

c) \$300

d) \$5000.

vii) Bond formation coupled with a triphosphate cleavage is catalyzed by

a) Isomerases

b) Ligases

c) Lyases

d) Hydrolases.

viii) White Biotechnology covers

a) Health Care

b) Industrial

c) Plant products

d) Environment.

ix) Louis Pasteur discovered the role of micro-organisms in fermentation process in the year

a) 1780 b)

1861

c) 1889

d) 1910.

x) Pathogens that afflict humans from non-human animal transplant sources are known as

a) Zoonotics

b) Xenogeneics

c) Xenovirals

d) none of these.



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xi) European plague caused, 3,00,000 deaths in Naples, 70,000 deaths in London and 50,000 deaths in Amsterdam in the year

a) 1520-1618

b) 1650-1660

c) 1862

d) 1918-1919.



xii) The entire genetic complement of an organism is known as

a) Gene

b) Genome

c) Genomics

d) None of these.

xiii) Immobilisation of enzyme can be done by

a) calcium alginate

b) starch

c) cholesterol

d) none of these.

xiv) Rhizomania, a sugar beet disease is caused by

a) polero virus

b) yellow vein virus

c) yellow mosaic poty virus

d) none of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.

3 ∞ 5 = 15

2. Describe Industrial Biotech Blockbusters products.
3. How are Bioplastics made ?
4. How are Biofuels made from Bio-wastes ?
5. How are genetically enhanced bacteria used in health care industry ?
6. What do you mean by 'orphan drug' credit ?



6
GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.



3 ∞ 15 = 45

7. What is Biocatalysts ? Describe major Global Companies involved in Biocatalysts. What are the applications of Biocatalysts ? 3 + 6 + 6
8. What is GM Food ? Recently FDA(USA) has made an announcement (USA) about GM (Food) stated as 'Foods derived from clones and progeny of clones are indistinguishable (as safe as) from conventional food'. Explain the scientific reasons about the same statement. 5 + 10
9. What is Transgenic Technology ? What are the medical applications of same technology such as Xenotransplantation, Tissue Engineering and production of Human Medicine ? 3 + 12
10. What are Plant Made Pharmaceuticals (PMP) ? What kinds of plants are recommended for making PMPs ? What kinds of diseases will be treated by PMPs ? Is there a need for PMPs ? 4 + 4 + 4 + 3
11. What are Embryonic stem cells ? What are the types of stem cells ? What is the current global status of commercial application of Cord Blood stem cells ? How is it applied in human diseases ? 3 + 5 + 7

END