	<u>Uneah</u>
Name :	
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Inviailator's Sianature :	

CS/B.PHARM (NEW)/SEM-6/PT-609/2012

2012

PHARMACEUTICAL BIOTECHNOLOGY & INDUSTRIAL MICROBIOLOGY

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.

GROUP - A (Multiple Choice Type Questions)

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

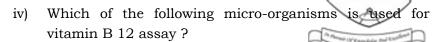
 $10 \times 1 = 10$

- i) Penicillin is a
 - a) β lactum antibiotic
 - b) Protein synthesis inhibitor
 - c) DNA synthesis inhibitor
 - d) None of these.
- ii) Recombinant DNA technology is useful for
 - a) gene bank
- b) genetic mapping
- c) transformation
- d) both (a) & (b).
- iii) Which of the following have the maximum ethanol content?
 - a) Beer

- b) Wine
- c) Brandy
- d) Whiskey.

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- a) S. aureus
- b) S. typhi
- c) L. leishmannii
- d) none of these.
- v) Vaccines are administered to provide
 - a) naturally acquired active immunity
 - b) naturally acquired passive immunity
 - c) artificially stimulated active immunity
 - d) all of these.
- vi) Activase is used for
 - a) Myocardial infarction
 - b) Sugar control
 - c) Vitamin synthesis.
 - d) Pulmonary embolism and myocardial infarction.
- vii) Immobilization of plant cell is required for production of
 - a) 2° metabolite
- b) 1° metabolite
- c) phyto pharmaceutical d)
- none of these.
- viii) Hybridoma cell is produced by
 - a) fusion of antibody producing cell with myeloma cell
 - b) fusion of two myeloma cells
 - c) fusion of two normal cells
 - d) none of these.
- ix) Hydroxylation is a type of
 - a) Biotransformation
- b) Chemotransformation
- c) Both of these
- d) None of these.

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- x) The most abundant class of antibody that comprises 80% of serum is
 - a) IgE

b) IgG

c) IgM

- d) None of these.
- xi) Which of the following miro-organisms are employed mostly in alcohol production by fermentation?
 - a) Saccharomyces cerevisiae
 - b) Zymomonas mobilis
 - c) both (a) & (b)
 - d) none of these.
- xii) Immunoglobulins (antibodies) are basically
 - a) Lipoprotein
- b) Phospholipid
- c) Glycoproteins
- d) Nucleoproteins.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

 $3 \times 5 = 15$

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- 2. a) What do you mean by the term "Clone"?
 - b) Give one example of cloning with the special reference to sheep "DOLLY". 2 + 3
- 3. Discuss in brief the complement fixation test.
- 4. What are the different steps involved in the design of a fermentor?
- 5. "All immunogens are antigens but all antigens are not immunogens." Explain with reason.
- 6. Out line the manufacture of beer, including the purpose of different stages of it.

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GROUP - C

(Long Answer Type Questions)

Answer any three of the following.

 $3 \times 15 = 45$

- 7. a) What do you mean by antigen-antibody interaction?
 - b) Mention different types of antigen-antibody interaction.
 - c) Briefly explain the following terms:
 - i) Transformation ii) Conjugation iii) Transduction.

 $1 + 5 + (3 \times 3)$

- 8. Describe the different stages involved in streptomycin production by fermentation method with a real sketch of fermenter design.
- 9. What do you mean by enzyme immobilization? What are the techniques employed in immobilization? Write the steps involved in immobilization on porous glass. 5 + 5 + 5
- 10. Write the advantages of biotransformation over chemotransformation. Briefly describe biotransformation of steroids with suitable examples. Write the difference between ales beer and lager beer. 5 + 5 + 5
- 11. a) What are the monoclonal antibodies?
 - b) What are the purposes of hybridoma technology?
 - c) How do you select a myeloma cell and produce monoclonal antibody by hybridoma technology?
 - d) What are the applications of monoclonal antibody?

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2 + 3 + 7 + 3

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