#### **NEET REVISION SERIES**

#### MICROBES IN HUMAN WELFARE



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Q-1 - 14537982
Which of the following microbes is a proteinacious infectious agent?
(A) Fungi
(B) Prions
(C) Bacteria
(D) Protozoa
CORRECT ANSWER: B
SOLUTION:

Prions are highly resistance glycoprotein particles which

function as infectious agents. Prions can also act as catalyst converting normal protein into prion state. Prions are not affected by proteases, nuclease, temperature upto 800C, UV radiations and formaldehyde.

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Q-2 - 14537986

The inoculum is added to the fresk milk in order to convert milk into curd, the term 'inoculum' here refers to

- (A) a starter rich in vitamin  $B_{12}$
- (B) a starter rich in proteins
- (C) a starter containing millions of LAB
- (D) an aerobic digester

CORRECT ANSWER: C

Q-3 - 14538009

Identify the blank spaces A,B,C and D in the following table and

select the correct answer.

Type of microbe Scientific name Commercial pro

Bacterium A Streptokinase

B Aspergillus niger Citric acid

Fungus Trichonderma polysporum C

Bacterium D Butyric acid

(A) A-Streptococcus B-Fungus

C-Cyclosporin A D-Clostridium butylicum

(B) A-Clostridium butlyclium B-Streptococcus

C-Fungus D-Cyclosporin A

(C) A-Streptococcus B-Yeast

C-Cyclosporin A D-Lacyobacillus

(D) A-Streptococcus B-Cyclosporin A

# **CORRECT ANSWER: A**

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Q-4 - 19269264

Dough kept overnight in warm weather becoms soft and spongy because of

- (A) Cohesion
- (B) Osmosis
- (C) Absorption of carbon dioxide from atmosphere
- (D) Fermentation

**CORRECT ANSWER: D** 

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Cheese and Yoghurt are porduct of the porcess

- (A) Distillation
- (B) Pasterurization
- (C) Dehyxdration

**CORRECT ANSWER: C** 

### **SOLUTION:**

Cheese and yoghurt is nutritive product of milk which is formed by fermentation process.

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Q-6 - 19269342

Which one of the following is usedd in the baking of the bread

Or Baker's yeast is Or The dough used for making bread is fremented by (A) Rhizopus stolonifer (B) Zygosaccharomyces (C) Saccharomyces cerevisiae (D) Saccharomycodes ludwigii **CORRECT ANSWER: C SOLUTION:** 

Invertase enzyme is obtained from Saccharomyces cerveisaie and is uded to bread baking is also called baker's yeast

In the sewage treatement, bacterial flocs are allowed to sediment iin a settling tank. This sediment is calld as

- (A) Inactivated sludge
- (B) Activated sludge
- (C) Primary sludge
- (D) Secondary sludge

**CORRECT ANSWER: B** 

### **SOLUTION:**

Once the BOD is reduced the effluent is then passd inot a setting tank where the bacteria flocs are allowed to settle. This sediment is called acitvated sludge. A small part of the activated sludge is pumped back into

theaeration tank to serve as incolum. REmaining part is pumped into large thaks called anaerobic sludge digester.

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Q-8 - 19269378

BOD of waste water is estimated by measuring the amount of

- (A) Total organic matter
- (B) Biodergadable organic matter
- (C) Oxygen evolution
- (D) Oxygen consumption

**CORRECT ANSWER: D** 

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Which of the following in sewage treatement removes suspended solids.

- (A) Tertiart treatment
- (B) Secondary treatement
- (C) Primary treatment
- (D) Sludge treatment

**CORRECT ANSWER: C** 

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Q-10 - 14538004

Streptomycin is obtained from

- (A) Streptomyces griseus
- (B) S. cerevisiae
- (C) S. venezuelae
- (D) S.rimosus

**CORRECT ANSWER: A** 

### **SOLUTION:**

S.Cerevisiae is used in the formation of dough while S. venezuelase is used in obtaining chlorophenicol while S. venezuelase is used in obtaining chloroamphenicol drug. Oxytetracyline is obtained from S. rimosus.

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Q-11 - 19269275

A compound which is produced by an organism and inhibits growth

of other organism is called
(A) Antigen
(B) Antibiotic
(C) Antibody
(D) Interferon
CORRECT ANSWER: B
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Q-12 - 19269321
Antibodies in our body are complex
(A) Prostaglandins
(B) Glycoproteins
(C) Lipoproteins

(D) Steroids

# **CORRECT ANSWER: B**

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Q-13 - 23781944

Immobilisation protects an enzyme against

- (A) High temperature
- (B) Low temperature
- (C) Amylases
- (D) Proteases

**CORRECT ANSWER: D** 

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Cyclosporin A, used as immunosuppressive agent is obtained from

- (A) Bacterium Bacillus subtilis
- (B) Fungus Trichoderma polysporum
- (C) Fungus Tolypocladium inflatum
- (D) Both B and C

**CORRECT ANSWER: D** 

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Q-15 - 23782002

Pheromones are chemicals that are used in animals for

- (A) Sex attractants
- (B) Sending alarm signals
- (C) Marking trails

(D) All the above

# **CORRECT ANSWER: D**

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Q-16 - 23782013

#### Thurioside is

- (A) Insecticide
- (B) Fungicide
- (C) Antibiotic
- (D) Weedicide

# **CORRECT ANSWER: A**

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Conversion of sugar into alcohol during fermentation is due
(A) Microorganisms
(B) Zymase
(C) Raised temperature
(D) Decomposition of sugar
CORRECT ANSWER: B
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Q-18 - 23782036
Root nodules for nitrogen fixation of a nonleguminous trees possess
(A) Frankia
(B) Rhizobium
(C) Azotobacter

(D) Thiobacillus

# **CORRECT ANSWER: A**

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Q-19 - 19269285

The microbe Pseudomonas denitrificans produces Vitamin

- (A) K
- (B) D
- (C)  $B_2$
- (D)  $B_{12}$

**CORRECT ANSWER: D** 

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Stirred-tank biroreactors have been designed for

- (A) Avaiilabilty of oxygen throught othe process
- (B) Addtion of preservation to the prodcut
- (C) Purifications of the procust
- (D) Ensuring anaerobic conditions in the culture vessel

## **CORRECT ANSWER: A**

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Q-21 - 19269352

Immobilised enzymes are generally used for bioractore in

- (A) Batch process
- (B) Digestive process
- (C) Activation process

(D) Continuous process

CORRECT ANSWER: D

#### **SOLUTION:**

Immobilisation of enzymes is the process is the process of fixing enzymes ot or enclosing it in a solid support so as to protect it from deactgivation and attack from proteases, maintain enezyme purity, ability to recover it after reaction and perform continuous reaction.

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Q-22 - 19269367

What gases are produced in anaerobic sludge digestres

- (A) Methane, hydrogen sulphide and  $O_2$
- (B) Hydrogen sulphide and  $CO_2$

- (C) Methane and  $CO_2$  only
- (D) Methane, hydrogen sulphide and  $CO_2$

**CORRECT ANSWER: D** 

# **SOLUTION:**

Marsh gas or Methane gas is mainly produced by the activites of anaeobic bacteria on sewage. Sewage contains large amounts of organic matter and microbes (bacteria and fungi) are digested during secondary treatment process of sewage by anaerobic bacteria. During digestion bacteira produce a mixture of gases such as methane, hydrogen sulphide and carbonodioxdie.

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The terms "antibiotic " was coined by:
(A) Fleming
(B) Waksman
(C) Funk
(D) Jenner
CORRECT ANSWER: B
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Q-24 - 23781992
A legume having symbiotic association with two nitrogen fixing
bacteria (Rhizobium and Aerospirillum ) is
(A) Crotalaria juncea
(B) Sesbania aculeata

(C) Sesbania rostrata (D) Cyamopsis tetragonoloba **CORRECT ANSWER: C** Watch Video Solution On Doubtnut App Q-25 - 23782028 Streptomyces griseus produces antibiotic (A) Terramycin (B) Chloramphenicol (C) Neomycin (D) Streptomycin **CORRECT ANSWER: D** 

Which is correct?

- (A) Legumes fix nitrogen through bacteria in their leaves
- (B) Legumes fix nitrogens through bacteria in their roots
- (C) Legumes fix nitrogens independent of bacteria
- (D) Legumes do not fix nitrogen.

**CORRECT ANSWER: B** 

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Q-27 - 19269311

Strepptomycin is used ot cure the dieases casued by the bactria

(A) Gram-positive

(B) Gram-negtive (C) Gram-netureal (D) Both gram-postive and gram-negative **CORRECT ANSWER: D** Watch Video Solution On Doubtnut App Q-28 - 14537996 Which of the following organisms is used in the production of beverages? (A) Penicillium notatum (B) Saccharomyces cerevisiae (C) Aspergillus niger (D) Clostridium butylicum

**CORRECT ANSWER: B** 

#### **SOLUTION:**

The yeast Saccharmyces cerevisiae, also known as brewer's yeast, is used for fermenting malted cereals an fruit juices to produce ethanol (ethyl alcohol). Microbes (yeasts in particular) have been used for the production of beverages, such as wine, beer, whisky, brandy and rum.

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Q-29 - 14538007

\_produced by bacterium Streptococcus and midified by genetic engineering is used as a clot buster for removing clots from the blood vessels of patients who have undergone myocardial infarction leading to heart attack.

- (A) Lipase
- (B) Streptokinase
- (C) Cyclosporin A
- (D) Antibiotic streptomycin

**CORRECT ANSWER: B** 

#### **SOLUTION:**

Streptokinase (Tissue Plasminogen Activator or TPA) is an enzyme obtained from the cultures of some haemolytic bacterium Streptococcus and modified genetically to function as clot buster. It has fibrinolytic effect. Therefore, it helps in clearing blood clots inside the blood vessels in patients who have undergone myocardial infarction leading to heart attack, through dissolution of intravascular fibrin.

Q-30 - 19269278

Vinegar is produced from sugars with the help of

Or

In the formation of ascorbic acid, the micro-organisme

- (A) Lactobacillus
- (B) Acetobacter
- (C) Nitrosomonas
- (D) Salmonella

**CORRECT ANSWER: B** 

#### **SOLUTION:**

Vinegar is most important acid being produced by two step fermentation of sugarcane juice by yeast and

Acetobacter bacilli bacteria. Ascorbic acid (vitamin C) is produced by a complicated modification of glucose by different species of Asetobacter.

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Q-31 - 19269315

The organism used for alcohol frementaion is

- (A) Penicillium
- (B) Pseucomonas
- (C) Aspergillus
- (D) Saccharomyces

**CORRECT ANSWER: D** 

**SOLUTION:** 

Brewing industry produces alcoholic beverages of several types depending upon the fermenting agent and the medium. Fermenting agents are Saccharomyces cerveisiae, S. sake, S. ellipsodiens (wine yeast) and S. pireformis, (ginner yeast)

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Q-32 - 19269380

What would happen if oxygen availability to acitivated sludge flocs is reduced

- (A) It will slow down the rate of degradation of organic matter
- (B) The centre of flocs will become anoxic, which would caouse death of bacteria and eventually breakage of flocs

(C) Flocs would increases in size s anaerobic bacteria would grow around flocs (D) Protozoa would grow in large numbers **CORRECT ANSWER: B** Watch Video Solution On Doubtnut App Q-33 - 23781971 Cyclosporin A is used for (A) Dissolving blood clots (B) Lowering cholesterol level (C) Immunosupression (D) Enhancing tenderness of meat **CORRECT ANSWER: C** 

Q-34 - 23782033

In cheese, manufacture microorgansim are important for:

- (A) Ripening
- (B) Sourcing of milk
- (C) Sourcing and ripening
- (D) Development of resistance to spoilage

**CORRECT ANSWER: C** 

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Q-35 - 23782041

Mycorrhiza exhibits the phenomenon of

(A) Antagonism
(B) Endemism
(C) Symbiosis
(D) Parasitism
CORRECT ANSWER: C
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Q-36 - 23782047
Rennin used in cheese indusry is
(A) Inhibitor
(B) Alkaloid
(C) Enzyme
(D) Inhibitor

# **CORRECT ANSWER: C**

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Q-37 - 23782053

Pasteurisation is carried out at

- (A)  $120\,^{\circ}\,C$  for 60 minutes
- (B)  $60^{\circ} 63^{\circ}C$  for thirty minutes
- (C)  $70^{\circ}C$  for 60 minutes
- (D)  $80^{\circ}C$  for 30 minutes

**CORRECT ANSWER: B** 

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Q-38 - 19269333

Interferons are

- (A) Antiviral proteins
- (B) Complex proteins
- (C) Anti-bacterial proteins
- (D) Anti-concer proteins

**CORRECT ANSWER: A** 

# **SOLUTION:**

Interferons are active proteins (Antiviral proteins ) that are effective against most viruses.

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Q-39 - 19269297

Enzyme can be immobillsed by

(A) Cros-liking enezyme molecules

- (B) Covalently attaching to a solid support
- (C) Entrapping them in gel
- (D) All the above

**CORRECT ANSWER: D** 

#### **SOLUTION:**

By corss linking enzyme molecules or by covalently attaching them to a solid support or by entrapping them in gel, metabolic acitivities of enzymes are stopped.

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Q-40 - 14538008

Enzyme which has the fibrinolytic effect is

(A) protease

(B) amylase
(C) lipase
(D) streptokinase
CORRECT ANSWER: D
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Q-41 - 19269288
Penicillin was used in
(A) I word war
(B) II word war
(C) Both I & II word war
(D) None ot these
CORRECT ANSWER: B

Q-42 - 19269349

Which of the molecules listed below is a product of fermentation of glucose by yeast

(A) 
$$(C_6H_{10}O_5)n$$

(B) 
$$C_2H_5OH$$

(C) 
$$C_6H_{12}O_6$$

(D) 
$$CH_3OH$$

**CORRECT ANSWER: B** 

# **SOLUTION:**

$$egin{aligned} C_{12}H_{22}O_{11} + H_2O \ & \stackrel{ ext{Yeast}}{\longrightarrow} C_6 \ H_{12} \ O_6 \ & \text{Glucose} \end{aligned} \ + C_6 \ H_{12} \ O_6 \ & \text{Fructose} \end{aligned}$$

$$egin{aligned} C_6 H_{12} O_6 + H_2 O \ & ext{Yeast} \ & ext{Zymase} \end{aligned} egin{aligned} 2 C_2 & H_{12} & O_6 \ & ext{Glucose} \end{aligned} \ & + C_6 & H_5 & OH \ & ext{Ethyl acohol} \end{aligned} \ & + 2 C O_2 \end{aligned}$$

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Q-43 - 19269371

The purpose of biological treatement of water -water is to

- (A) Reduce BOD
- (B) Increase BOD
- (C) Reduce sedimentation
- (D) Increases Sedimention

**CORRECT ANSWER: A** 

Q-44 - 19269401

Why is the gas produced in a biogas plant and fermentation process of dough in bakery different

- (A) As because the microoganisms are diffrenet
- (B) As the raw meterial is different
- (C) Both microoganisms and the raw material are different
- (D) Both the processes are competely different

**CORRECT ANSWER: C** 



Fertilizers applied to crop plants, pollute

- (A) Soil resources
- (B) Water resources
- (C) Both soil and water resources
- (D) Soil, water and atmosphere

#### **CORRECT ANSWER: C**

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Q-46 - 23782019

Azolla enriches rice fields with nitrogen due to its association with Or

A free living nitrogen fixing cyanobacterium which can also form symbiotic association with the water fern Azolla is

(A) Anabaena (B) Nostoc (C) Rhizobium (D) Frankia **CORRECT ANSWER: A** Watch Video Solution On Doubtnut App Q-47 - 19269325 Which of the following statements is not trur for stirred tank fermentation (A) Buffer needed to control pH (B) Batch and feed possible

(C) Controlled dissovled oxygen

(D) Easy in process sampling

#### **CORRECT ANSWER: C**

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Q-48 - 19269306

Yeast is used in the production of

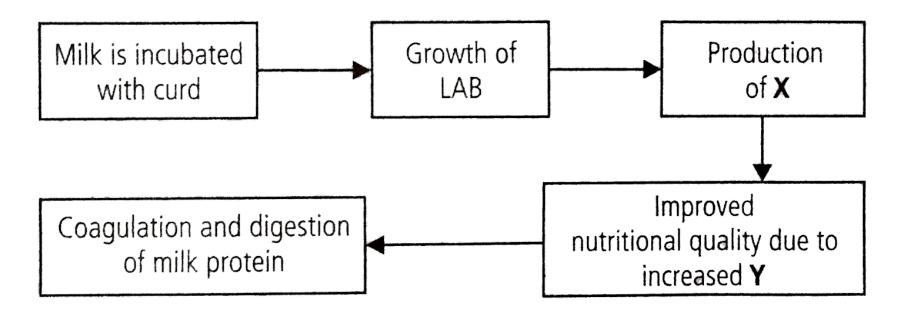
- (A) Critric acid lactic acid
- (B) Lipase and pectinase
- (C) Breaed and beer
- (D) Cheese and butter

**CORRECT ANSWER: C** 



First antibiotic isolated was
Or
Antiboitics are produced by
(A) Terramycin
(B) Neomycin
(C) Penicillin
(D) Streptomycin
CORRECT ANSWER: C
SOLUTION:
First antibiotic isolated was penicillin (wonder drug,) from
Pencillium notatum.
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Study the following flow chart depicting the formation of curd from milk. Identify the missing parts X and Y.



- (A) X-Gluconic acid, Y-Vitamin  $B_1$
- (B) X-Lactic acid, Y-Vitamin  $B_2$
- (C) X-Lactic acid, Y-Vitamin  $B_{12}$
- (D) X-Citric acid, Y-Vitamin C

#### CORRECT ANSWER: C



Which antibiotic inhibits peptide bond formation
(A) Streptomycin
(B) Tetracyclin
(C) Chloramphenicol
(D) Neomycin
CORRECT ANSWER: C
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Q-52 - 19269302
Which of the following organisc acids was prodcuded by
fermentatio
(A) Oxalic acid
(B) Lactic acid s

- (C) Citric acid
- (D) Propionic acid

**CORRECT ANSWER: B** 

#### **SOLUTION:**

First organic acid (lactic acid ) to be fermented, which obtained by the acitivity of a number of bacteria. Like Streptococcus lactis, lactis, Lactobacillus delbreukii, and Rhizopus fungus.

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Q-53 - 19269330

Ergot, which is an important source of a drug is obtained from

- (A) Agaricus
- (B) Claviceps

- (C) Commiphora
- (D) Ephedra

**CORRECT ANSWER: B** 

#### **SOLUTION:**

Claviceps perpurea is a fungus which cause ergotismm is rye (secale cereae) and other plants. It also yields a hallucibnogenic drug called. LSD.

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Q-54 - 19269339

Which one of the following pairs is not correctly matched

- (A) Spirulina -Single cell portein
- (B) Rhizobium Biofertlizer

(C) Streptomyces -Antibiotic (D) Serratia -Drug addiction **CORRECT ANSWER: D** Watch Video Solution On Doubtnut App Q-55 - 19269355 Which one of the following is a wrong matching of a microbe and its industrial product, while the remaining three are correct, (A) Clostridum butylicum -lactic and (B) Aserglillus niger -citric acid (C) Yeast -statins (D) Acetobacter aceti-acetic acid **CORRECT ANSWER: A** 

Q-56 - 19269363

The primary treatment of sewage involes

- (A) Digestion
- (B) Decomposition
- (C) Sedimentation and Filtration
- (D) None of these

**CORRECT ANSWER: C** 

#### **SOLUTION:**

It ivolves physical removal of particles -large and samll from the seqage through filtration and sedimentaion.

Swquential filtration removes floating debris, then the grit (soil and small pebles) are removed by dedimentation.

All solids that settel down forms the primary sludge the suprnant forms the effluent.

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Q-57 - 19269374

Wastewater treatment geneerates a large quantity of sludge, which can be treated by

- (A) Anaerobic
- (B) Floc
- (C) Chemicals
- (D) Oxidation pond

**CORRECT ANSWER: A** 



Who coined the term " antibiotics"
Or
Streptomycin was first isolated in 1944-45 by
(A) Flemming
(B) Florey
(C) Chain
(D) S. Waksman
CORRECT ANSWER: D
SOLUTION:
The term 'antibiotic' was given by Waksman (1942).

Which of the following antibiotics is not correctly matched with the source from which it is obtained?

(A)

Antibiotic Source

Penicillin Penicillium chrysogenum

(B)

Antibiotic Source

Bacitracin Bacillus licheniformis

(C)

Antibiotic Source

Griseofulvin Penicillium griseofulvum

(D)

Antibiotic Source

Streptomycin Bacillus griseus

CORRECT ANSWER: D

#### **SOLUTION:**

Streptomycin is obtained from Streptomyces griseus. It is found useful in meningitis, pneumonia, tuberculosis and local infections.

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Q-60 - 14537998

Wine and beer are produced directly by fermentation whereas brandy and whisky require both fermentation and distillation. This is because

- (A) fermentation is inhibited at the alcohol level of
- 10-18~%
- (B) distillation prolong storage
- (C) distillation improves quality
- (D) distillation purifies the beherage

### **CORRECT ANSWER: A**



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