



# BIOLOGY

## BOOKS - SRIJAN BIOLOGY (ENGLISH)

### SAMPLE PAPER 1 (BIOLOGY)

#### Multiple Choice Questions

1. Prostate gland and seminal vesicle perform the function of:

A. Secretion of pregnancy hormone

B. Nutrition and fluid medium for sperm movement.

C. Penetration of ovum

D. All of these

**Answer: B**



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2. Which of the following hormone attains a peak level in the middle of the menstrual cycle (around the 14th day)?

A. LH

B. Progesterone

C. Oxytocin

D. GnRH

**Answer: A**



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3. Parturition is the process of expelling the fully formed young one from the mother's uterus. It is controlled by which of the following hormones?

A. Relaxin

B. Oxytocin

C. Prolactin

D. hCG

**Answer: B**



**View Text Solution**

4. Head of epididymis is called as:

- A. Cauda epididymis
- B. Hammer head
- C. Corpus epididymis
- D. Caput epididymis

**Answer: D**



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5. Endosperm is meant for:

A. Protection

B. transduction

C. nourishment

D. respiration

**Answer: D**



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6. One of two protective envelope in each ovule is called:

A. Micropyle

B. Integument

C. Hilum

D. Chalaza

**Answer: B**



**View Text Solution**

7. Usually, how many embryo sacs are present in an ovule?

A. 1

B. 3

C. 2

D. Many

**Answer: A**



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8. Which of the following undergoes meiosis II?

A. Second polar body

B. Spermatogonia

C. Secondary oocyte

D. Both (a) and (c)

**Answer: C**



**View Text Solution**

9. Zona pellucida is synthesised by:

- A. Follicle cell
- B. Oocyte
- C. Granulosa cells
- D. Both (a) and (b)

**Answer: B**



**View Text Solution**

**10.** During the first two months of pregnancy the basic structures are formed. During this period, the developing stage is called as:

- A. Child
- B. Young one
- C. Foetus
- D. Infant

**Answer: C**



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**11.** Infertility cases due to inability of male partner to inseminate the female is corrected by:

- A. ZIFT (Zygote intra fallopian transfer)
- B. GIFT (Gamete intra fallopian transfer)
- C. ICSI (Intra cytoplasmic sperm injection)
- D. AI (Artificial insemination)

**Answer: C**



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**12.** Couple unable to produce children in spite of unprotected sexual co-habitation is termed as:

A. STD (Sexually transmitted diseases)

B. PID (Pelvic inflammatory disease)

C. Impotency

D. Infertility

**Answer: D**



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**13.** Which of the following are included in barrier method?

A. Condoms

B. Cervical caps and vault

C. Diaphragms

D. All of these

**Answer: D**



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**14.** It was found that sometimes phenotype of  $F_1$  does not resemble either of the parents and was in between the two. This is the case of:

A. Dominance

B. Co dominance

C. Pleiotropism

D. Incomplete dominance

**Answer: D**



**View Text Solution**

15. The unmodified allele is equivalent to modified allele when it produces:

- A. Normal enzyme
- B. A non functional enzyme
- C. No enzyme at all
- D. Inactive enzyme

**Answer: A**



**View Text Solution**

16. Which symbol of pedigree is correctly matched?

A.  — Female

B.  — Affected offsprings

C.  — Affected male of autosomal recessive disorder

D.  — Marriage between relatives

**Answer: D**



**View Text Solution**

17. Negative charge on DNA is due to which of the following constituent:

A. Sugar

B. Nitrogenous base

C. Phosphoric acid

D. Hydroxyl group (-OH) present on sugar

**Answer: C**



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**18.** Select the correct one in reference to direction of DNA replication.

A. 5' → 3' Template → continuous

synthesis

B. 3' → 5' Template → discontinuous

synthesis

C. 3' → 5' Template → continuous

synthesis

D. 3' → 5' Template → leading strand  
synthesis

**Answer: C**



**View Text Solution**

**19.** Which of the following cell cycle event is responsible for aneuploidy based chromosomal disorder?

A. Failure of  $G_1$  phase

B. Failure of DNA replication in S-phase

C. Failure of segregation or disjunction of  
chromosome

D. Failure of movement of chromosomes

**Answer: C**



**View Text Solution**

**20.** Which of the following methodology is used to identify all the genes that are

expressed as RNA in Human Genome Project (HGH)?

- A. Sequence Annotation
- B. Expressed Sequence Tags
- C. Karyotyping
- D. Ammonification

**Answer: C**



**View Text Solution**

21. Hugo de vries called the single step large mutation as:

A. Mutation

B. Sports

C. Microevolution

D. Saltation

**Answer: D**



**View Text Solution**

22. Pouched mammals survived in Australia due to :

- A. Divergent evolution
- B. Continental drift
- C. Adaptive radiation
- D. Convergent evolution

**Answer: B**



**View Text Solution**

23. Forelimbs of whale, bat, cheetah and human are examples of:

- A. Analogous organs
- B. Homologous organs
- C. Homoplastic organs
- D. Vestigial organs

**Answer: B**



**View Text Solution**

24. The animals which evolved into the first amphibian that lived on both land and water, were:

A. Jawless fish

B. Lobefins

C. Ichthyosaurus

D. Shrew

**Answer: B**



**View Text Solution**

**25.** Which was absent in Miller's experiment?

A. Vacuum pump

B. Electrodes

C. Condenser

D. None of these

**Answer: D**



**View Text Solution**

**26.** What is a placenta?

A. Cells

B. Parenchymatous cushion

C. Layers

D. Ovary

**Answer: B**



**View Text Solution**

**27. Find out the incorrect statement:**

A. Cucurbits are monoecious plants.

B. Papaya is a dioecious plant.

C. Meiocytes are haploid.

D. Male gametes are transferred through pollen tube in spermatophytes.

**Answer: C**



**View Text Solution**

**28. What does the stigma do?**

A. Compatibility test

B. Support

C. Connection

D. Reproduce

**Answer: C**



**View Text Solution**

**29.** Enclosed within the integuments is a mass of cells called:

A. Micropyle

B. Nucellus

C. Chalaza

D. Embryo sac

**Answer: B**



**View Text Solution**

**30. Perisperm is present in:**

A. Mango

B. Guava

C. Black pepper

D. Pea

**Answer: C**



**View Text Solution**

**31. Stellar distance is measured in:**

A. Kilometer

B. Light years

C. Per second

D. None of these

**Answer: B**



**View Text Solution**

**32.** What is the regulation of a lac operon by a repressor known as?

A. Neutral regulation

B. Positive regulation

C. Mixed regulation

## D. Negative regulation

**Answer: D**



**View Text Solution**

**33.** Short stretches of DNA used to identify complementary sequence in a sample are called:

A. probes

B. markers

C. VNTRs

D. primers

**Answer: A**



**View Text Solution**

**34.** The mode of action of the copper ions in an IUD is to:

A. increase the movement of sperms

B. decrease the movement of the sperms

C. make the uterus unsuitable for  
implantation

D. make the cervix hostile to the sperms

**Answer: B**



**View Text Solution**

**35. Where do the ovules grow?**

A. Flower

B. Gynoecium

C. Stigma

D. Placenta

**Answer: D**



**View Text Solution**

**36.** Pollen grains are preserved as fossils due to the presence of:

A. Sporopollenin

B. Cellulose

C. Lignocellulose

D. Pectocellulose

**Answer: A**



**View Text Solution**

**37.** The thalamus contributes to the fruit formation in:

A. banana

B. orange

C. strawberry

D. guava

**Answer: C**



**View Text Solution**

**38.** Which of the following beverage is produced without distillation?

A. Whiskey

B. Brandy

C. Wine

D. Rum

**Answer: C**



**View Text Solution**

**39.** *Bacillus thuringiensis* show their inhibitory effect on which part of the insect body?

A. Gut

B. Respiratory tract

C. Nervous system

D. Circulatory system

**Answer: A**



**View Text Solution**

**40.** Use of biofertilizer is the part of:

A. Inorganic farming

B. Organic farming

C. Energy cropping

## D. Energy plantation

**Answer: B**



**View Text Solution**

**41. Assertion :** Only the sense strand of DNA is copied into RNA.

**Reason :** The antisense strand plays a role in replication.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

**Answer: B**



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**42.** Assertion : DNA fingerprinting is very well known for its application in paternity testing in case of disputes.

Reason : It employs the principle of polymorphism in DNA sequence as the polymorphism is inheritable from parent to offsprings.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

**Answer: A**



**View Text Solution**

**43.** Assertion: The person heterozygous for sickle-cell trait produces both normal and abnormal haemoglobin.

Reason: The normal allele and sickle cell allele are codominant.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of

assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

**Answer: A**



**View Text Solution**

**44.** Assertion : Cross pollination results in healthy and stronger offspring.

Reason This happens due to phenomenon of hybrid vigour

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

**Answer: A**



**View Text Solution**

**45. Assertion :** Disadvantages of synthetic pesticides can be overcome by the use of natural or biopesticides.

**Reason :** Biopesticides are harmless agents which are used to control weeds and pest without causing any damage.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

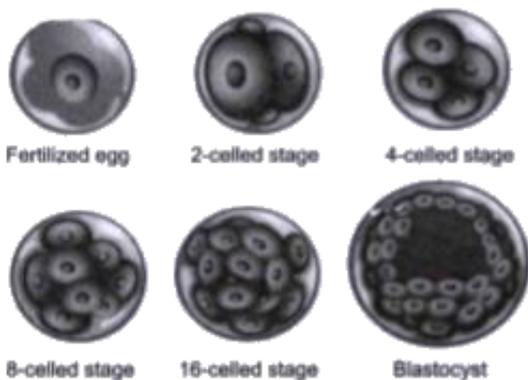
D. Both assertion and reason are false.

**Answer: B**



**View Text Solution**

**46.** Cleavage is the series of rapid mitotic divisions in zygote and forms blastula. The 2, 4, 8, 16 daughter cells are called blastomere. Embryo with 64 blastomere is known as blastocyst and has blastocoel cavity. Blastocyst gets implanted in uterine wall and leads to pregnancy.



Solid mass of cells with 16 blastomere is called:

A. Morula

B. Blastula

C. Gastrula

D. Zygote

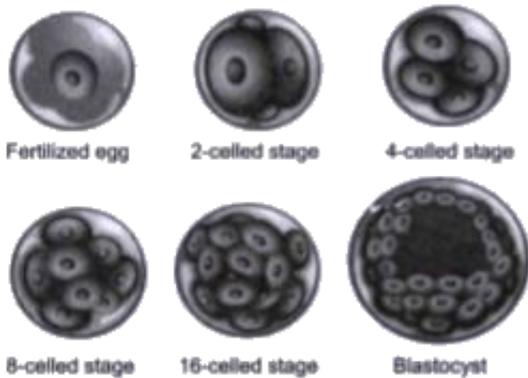
**Answer: A**



**View Text Solution**

**47.** Cleavage is the series of rapid mitotic divisions in zygote and forms blastula. The 2, 4, 8, 16 daughter cells are called blastomere.

Embryo with 64 blastomere is known as blastocyst and has blastocoel cavity. Blastocyst gets implanted in uterine wall and leads to pregnancy.



The cells within the inner cell mass that possess the ability to give rise to the entire organism are called:

A. placental cells

B. stem cells

C. mother cells

D. zygote

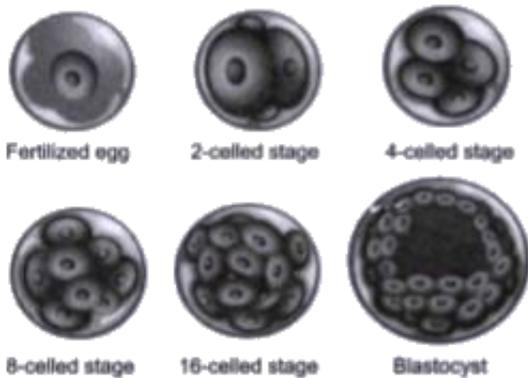
**Answer: B**



**View Text Solution**

**48.** Cleavage is the series of rapid mitotic divisions in zygote and forms blastula. The 2, 4, 8, 16 daughter cells are called blastomere. Embryo with 64 blastomere is known as

blastocyst and has blastocoel cavity. Blastocyst gets implanted in uterine wall and leads to pregnancy.



Site of implantation is:

- A. Endometrium of uterus
- B. Cervix
- C. Uterine fundus

## D. Infundibulum of oviduct

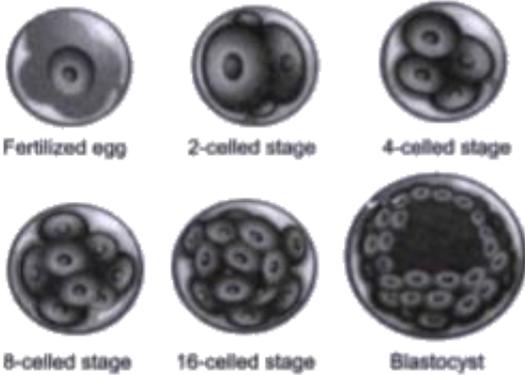
**Answer: A**



**View Text Solution**

**49.** Cleavage is the series of rapid mitotic divisions in zygote and forms blastula. The 2, 4, 8, 16 daughter cells are called blastomere. Embryo with 64 blastomere is known as blastocyst and has blastocoel cavity. Blastocyst gets implanted in uterine wall and leads to

pregnancy.



Correct sequence of various structures formed during embryonic development:

A. Morula → Embryo → Gastrula →

Blastula

B. Zygote → Embryo → Morula →

Blastula

C. Blastula → Morula → Gastrula →

Zygote

D. Zygote → Morula → Blastula →

Gastrula

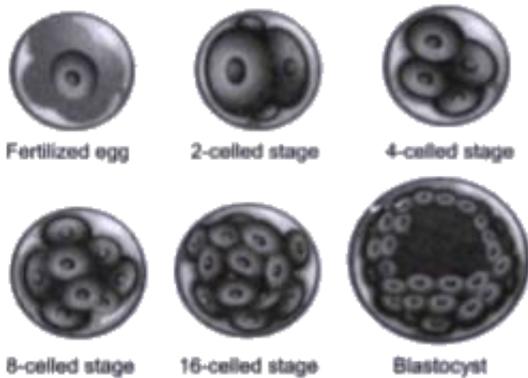
**Answer: D**



**View Text Solution**

**50.** Cleavage is the series of rapid mitotic divisions in zygote and forms blastula. The 2, 4, 8, 16 daughter cells are called blastomere.

Embryo with 64 blastomere is known as blastocyst and has blastocoel cavity. Blastocyst gets implanted in uterine wall and leads to pregnancy.



The solid mass of 8-16 cells formed from zygote after successive mitotic division is called:

A. Blastula

B. Gastrula

C. Morula

D. None of these

**Answer: C**



**View Text Solution**

**51.** Apomixis is a mode of reproduction which does not involve formation of zygote through genetic fusion. In plants, apomixis commonly mimics sexual reproduction but produces

seeds without fertilization. There are several methods of apomictic development in seeds.

Apomixis can be observed in hawthorns, shadbush, Sorbus, brambles, and blackberries, meadow grasses, mat grass, hawkweeds, etc.

Apomixis is a type of reproduction in plants in which:

A. Fertilisation does not take place

B. Male nucleus takes part in fertilisation

C. Pollen fusion takes place

D. Generative nucleus takes part in fertilisation

**Answer: A**



**View Text Solution**

**52.** Apomixis is a mode of reproduction which does not involve formation of zygote through genetic fusion. In plants, apomixis commonly mimics sexual reproduction but produces seeds without fertilization. There are several

methods of apomictic development in seeds.

Apomixis can be observed in hawthorns, shadbush, Sorbus, brambles, and blackberries, meadow grasses, mat grass, hawkweeds, etc.

If the hybrids are made into apomicts, there is no segregation of characters in the hybrid progeny.

A. False

B. True

C. cannot say

D. None of these

**Answer: B**



**View Text Solution**

**53.** Apomixis is a mode of reproduction which does not involve formation of zygote through genetic fusion. In plants, apomixis commonly mimics sexual reproduction but produces seeds without fertilization. There are several methods of apomictic development in seeds. Apomixis can be observed in hawthorns, shadbush, Sorbus, brambles, and blackberries,

meadow grasses, mat grass, hawkweeds, etc.

Adventive embryo is found in :

A. Citrus

B. Opuntia

C. Apple

D. Both (a) and (b)

**Answer: D**



**View Text Solution**

**54.** Apomixis is a mode of reproduction which does not involve formation of zygote through genetic fusion. In plants, apomixis commonly mimics sexual reproduction but produces seeds without fertilization. There are several methods of apomictic development in seeds. Apomixis can be observed in hawthorns, shadbush, Sorbus, brambles, and blackberries, meadow grasses, mat grass, hawkweeds, etc. Formation of embryo directly from diploid egg without fertilisation is called:

A. apospory

B. polyembryony

C. diplospory

D. parthenogenesis

**Answer: D**



**View Text Solution**

**55.** Apomixis is a mode of reproduction which does not involve formation of zygote through genetic fusion. In plants, apomixis commonly

mimics sexual reproduction but produces seeds without fertilization. There are several methods of apomictic development in seeds. Apomixis can be observed in hawthorns, shadbush, Sorbus, brambles, and blackberries, meadow grasses, mat grass, hawkweeds, etc.

\_\_\_\_\_ produces seeds without fertilisation.

A. Hibiscus

B. Rafflesia

C. Asteraceae

D. Familiceae

**Answer: C**



**View Text Solution**

**56.** In human beings gene I controls the ABO blood groups. The gene I has three alleles  $I^A$ ,  $I^B$ ,  $i$ . Since there are three different alleles, six different genotypes are possible. If two persons with 'AB' blood group marry and have many children, their children can be categorised as 'A' blood group, 'B' blood group and 'AB' blood group in 1:1:2 ratio. Modern

technique of protein electrophoresis reveals presence of both 'A', and 'B' type protein in 'AB' blood group individuals.

How many types of phenotypes can occur in ABO blood group?

- A. Six
- B. Two
- C. Three
- D. Four

**Answer: D**



**57.** In human beings gene I controls the ABO blood groups. The gene I has three alleles  $I^A$ ,  $I^B$ ,  $i$ . Since there are three different alleles, six different genotypes are possible. If two persons with 'AB' blood group marry and have many children, their children can be categorised as 'A' blood group, 'B' blood group and 'AB' blood group in 1:1:2 ratio. Modern technique of protein electrophoresis reveals presence of both 'A', and 'B' type protein in 'AB'

blood group individuals.

If a man of 'A' blood group marries a woman of AB blood group. Which type of progeny indicates that man is heterozygous?

A. O

B. B

C. A

D. AB

**Answer: B**



**View Text Solution**

**58.** In human beings gene I controls the ABO blood groups. The gene I has three alleles  $I^A$ ,  $I^B$ ,  $i$ . Since there are three different alleles, six different genotypes are possible. If two persons with 'AB' blood group marry and have many children, their children can be categorised as 'A' blood group, 'B' blood group and 'AB' blood group in 1:1:2 ratio. Modern technique of protein electrophoresis reveals presence of both 'A', and 'B' type protein in 'AB' blood group individuals.

ABO blood groups in human beings is an example of:

- A. Incomplete dominance
- B. Co-dominance
- C. Multiple allelism
- D. Both (b) and (c)

**Answer: D**



**View Text Solution**

**59.** In human beings gene I controls the ABO blood groups. The gene I has three alleles  $I^A$ ,  $I^B$ ,  $i$ . Since there are three different alleles, six different genotypes are possible. If two persons with 'AB' blood group marry and have many children, their children can be categorised as 'A' blood group, 'B' blood group and 'AB' blood group in 1:1:2 ratio. Modern technique of protein electrophoresis reveals presence of both 'A', and 'B' type protein in 'AB' blood group individuals.

Presence of both 'A' and 'B' type proteins in 'AB' blood group individuals is an example of:

- A. Partial dominance
- B. Incomplete dominance
- C. Co-dominance
- D. Complete dominance

**Answer: C**



**View Text Solution**

**60.** In human beings gene I controls the ABO blood groups. The gene I has three alleles  $I^A$ ,  $I^B$ ,  $i$ . Since there are three different alleles, six different genotypes are possible. If two persons with 'AB' blood group marry and have many children, their children can be categorised as 'A' blood group, 'B' blood group and 'AB' blood group in 1:1:2 ratio. Modern technique of protein electrophoresis reveals presence of both 'A', and 'B' type protein in 'AB' blood group individuals.

Complete the following table:

Genotypes	Blood Groups
$I^A I^B$	1
$I^B i$ , 2	B
- 3	O
$I^A I^A$ , 4	$I^A$

A.    1    2            3    4  
       O     $I^B I^B$      $I^B i$      $I^A i$

B.    1    2            3    4  
       AB     $I^A i$      $I^A I^B$      $I^B i$

C.    1    2            3    4  
       AB     $I^B I^B$      $ii$      $I^A i$

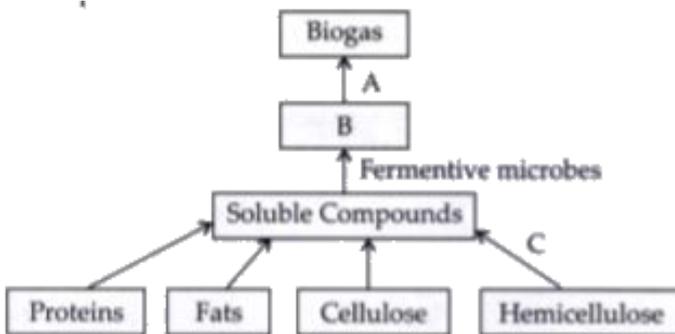
D.    1    2            3    4  
       O     $I^A I^A$      $ii$      $I^A i$

**Answer: C**



**View Text Solution**

61. Villagers in a place near chamber started planning to make power supply for agricultural purpose from cow dung. They have started a biogas plant for the purpose. Study the flow chart for biogas production given below and answer the questions:



Biogas is composed of:

A. methane,  $CO_2$  and  $O_2$

B. Methane,  $CO_2$

C.  $CO_2$ ,  $H_2S$  and  $CH_4$

D.  $H_2S$ ,  $H$  and  $O_2$

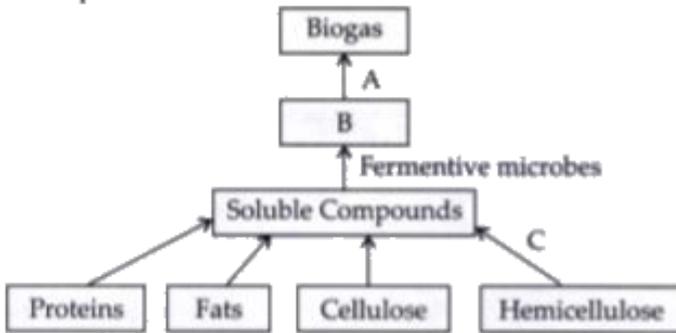
**Answer: C**



**View Text Solution**

**62.** Villagers in a place near chamber started planning to make power supply for agricultural purpose from cow dung. They have started a biogas plant for the purpose.

Study the flow chart for biogas production given below and answer the questions:



In the given flowchart 'A' denotes:

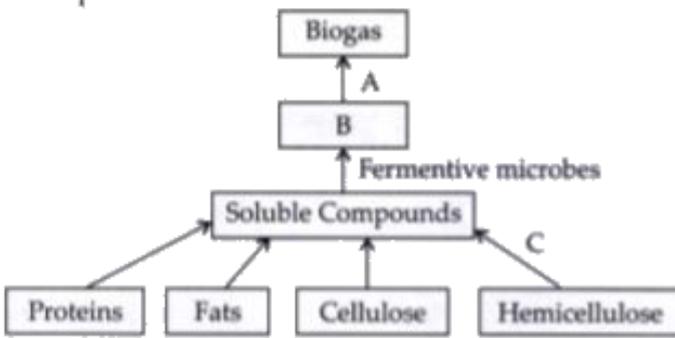
- A. Aerobic bacteria
- B. Methanogenic bacteria
- C. Cellulose degrading bacteria
- D. Yeast and protozoa

**Answer: B**



**View Text Solution**

**63.** Villagers in a place near chamber started planning to make power supply for agricultural purpose from cow dung. They have started a biogas plant for the purpose. Study the flow chart for biogas production given below and answer the questions:



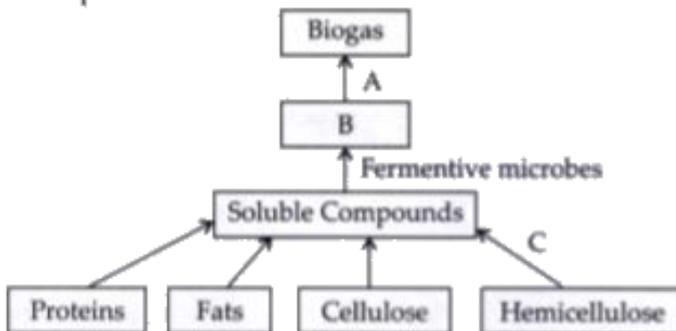
What is represented by 'B' in flow chart ?

- A. Carbohydrates
- B. Protein polymers
- C. Organic acids
- D. Fat globules

**Answer: C**

 [View Text Solution](#)

64. Villagers in a place near chamber started planning to make power supply for agricultural purpose from cow dung. They have started a biogas plant for the purpose. Study the flow chart for biogas production given below and answer the questions:



'C' in the flow chart causes

A. aerobic breakdown of complex organic compounds

B. anaerobic digestion of complex organic compounds

C. fermentation of organic compounds

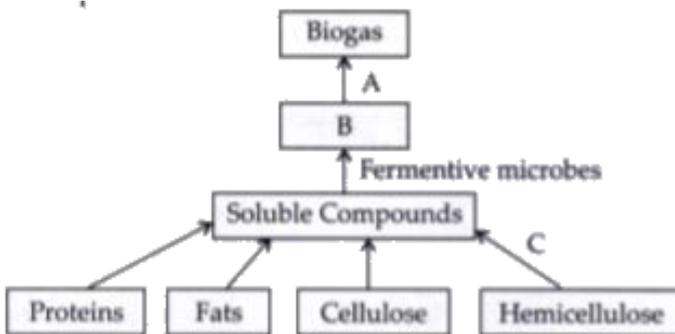
D. fermentation of monomers

**Answer: B**



**View Text Solution**

65. Villagers in a place near chamber started planning to make power supply for agricultural purpose from cow dung. They have started a biogas plant for the purpose. Study the flow chart for biogas production given below and answer the questions:



If 'A' is not added :

A. Methane will not be formed

B.  $CO_2$  will not be formed

C. Organic compound will not be converted  
to  $H_2S$

D.  $O_2$  will not be formed

**Answer: A**



**View Text Solution**

**66.** Overpopulation causes number of family problems. Strategies like birth control measures help to control population

explosion. Natural methods of birth control do not involve medication or devices to prevent pregnancy but rather rely on behavioural practices and making observation about menstrual cycle.

Which method helps in contraception of temporary absence of sex?

A. Coitus interruptus

B. Withdraw method

C. Rhythm method

D. Lactational amenorrhea method

**Answer: C**



**View Text Solution**

**67.** Overpopulation causes number of family problems. Strategies like birth control measures help to control population explosion. Natural methods of birth control do not involve medication or devices to prevent pregnancy but rather rely on behavioural practices and making observation about menstrual cycle.

Why is lactational amenorrhea effective for about 4-5 months after parturition?

- A. Ovulation occurs on about the 14th day of menstruation
- B. Ovulation does not occur during intense lactation
- C. This method inhibits mobility of sperms
- D. Both (b) and (c)

**Answer: B**



**View Text Solution**

**68.** Overpopulation causes number of family problems. Strategies like birth control measures help to control population explosion. Natural methods of birth control do not involve medication or devices to prevent pregnancy but rather rely on behavioural practices and making observation about menstrual cycle.

Which fact is not the basis of periodic abstinence method of birth control?

A. Ovum remains alive for about 1-2 days

B. Ovulation occurs on about 14 day of  
menstruation

C. Sperms survive for about 3 days

D. Alteration in uterine endometrium

**Answer: D**



**View Text Solution**

**69.** Overpopulation causes number of family problems. Strategies like birth control measures help to control population explosion. Natural methods of birth control do not involve medication or devices to prevent pregnancy but rather rely on behavioural practices and making observation about menstrual cycle.

On which days of menstrual cycle coitus should be avoided to prevent fertilisation?

A. 10 – 17

B. 6 – 13

C. 1 – 5

D. 15 – 28

**Answer: A**



**View Text Solution**

**70.** Overpopulation causes number of family problems. Strategies like birth control measures help to control population explosion. Natural methods of birth control do

not involve medication or devices to prevent pregnancy but rather rely on behavioural practices and making observation about menstrual cycle.

Emergency contraceptives are effectively used within:

- A. 72 hrs of coitus
- B. 72 hrs of ovulation
- C. 72 hrs of menstruation
- D. 72 hrs of implantation

**Answer: A**



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