

N 947

Seat No.

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2023 III 20 1100 - N 947 - SCIENCE AND TECHNOLOGY (72) - PART II (E)

(REVISED COURSE)

Time : 2 Hours

(Pages 11)

Max. Marks : 40

- Note :-*
- (i) All questions are compulsory.
 - (ii) Use of calculator is not allowed.
 - (iii) The numbers to the right of the questions indicate full marks.
 - (iv) In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit.
 - (v) For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer.

For Eg. : (i) (A), (ii) (B), (iii) (C)
 - (vi) Scientifically correct, labelled diagrams should be drawn wherever necessary.

P.T.O.

1. (A) Write the *correct* alternative :

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(i) Vestigial organ present in human body is proof of evolution.

(A) Human hand

(B) Appendix

(C) Ear muscles

(D) Tail-bone

(ii) Type of sexual reproduction is

(A) Fragmentation

(B) Regeneration

(C) Gamete formation

(D) Budding

(iii) The apex consumer is

- (A) Eagle
- (B) Frog
- (C) Snake
- (D) Grasshopper

(iv) The Hydroelectric capacity of Koyna dam is

- (A) 2400 MW
- (B) 1960 MW
- (C) 1900 MW
- (D) 1961 MW

(v) Animal with bilateral symmetry is

- (A) Star fish
- (B) Human
- (C) Paramecium
- (D) Amoeba

(B) Answer the following questions as per the given instructions :

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(i) State whether the following statement is true or false :

To take selfie on road is the invitation for accident

(ii) Write the correct co-relation :

Insulin : diabetes :: Interferon :

(iii) To which class does bat belong ?

(iv) Match the correct pair :

Column 'A'

Column 'B'

(1) Forest Conservation Act

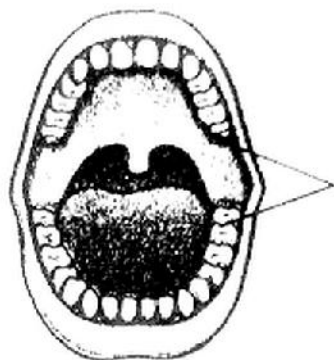
(a) 1986

(b) 1980

(c) 1970

(c) Write the name of indicated part in diagram :

Human jaw



2. (A) Give scientific reasons (any two) :

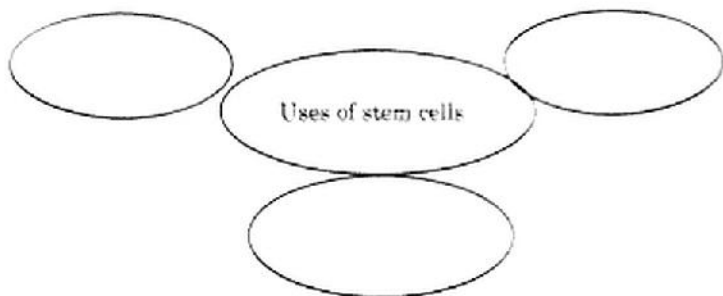
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- (i) Sometimes higher plants and animals too perform anaerobic respiration.
- (ii) It is absolutely necessary to control the fission reaction in nuclear power plant.
- (iii) Flower is structural unit of sexual reproduction in plant

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(B) Answer the following questions (any three) :

- (i) Write a short note on Environmental Conservation.
- (ii) Distinguish between Chordates and Non-chordates.
- (iii) Write the correct answer in blank circles.



- (iv) Write down any two objectives of disaster management.
- (v) What are the benefits of mixing ethanol with petrol and diesel ?

3. Answer the following questions (any five) :

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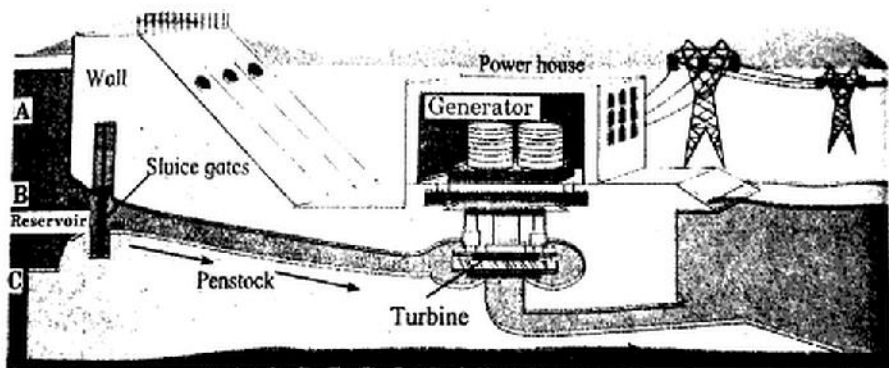
- (i) Darwin's theory of natural selection.

(ii) Complete the following chart :

Sr. No.	Proteins	Name of the Organs
1.	Melanin, Keratin
2.	Pancreas
3.	Haemoglobin, antibodies

(iii) Write the factors affecting environment.

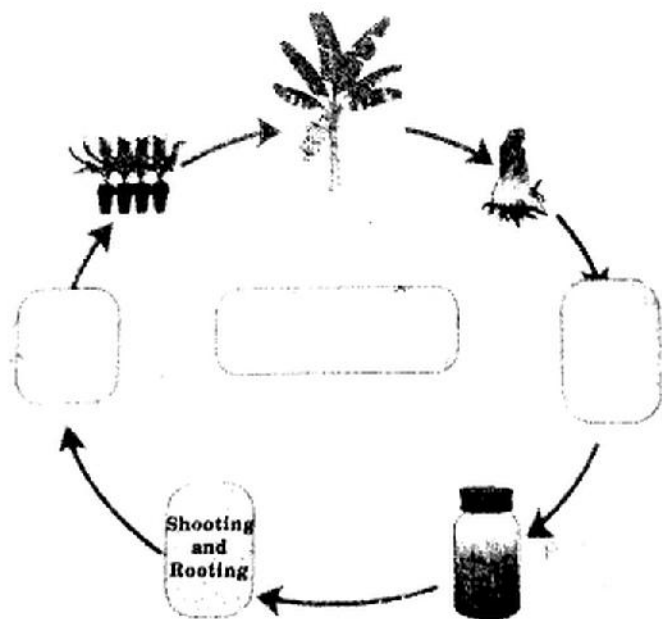
(iv) Answer the following questions from figure :



(a) With reference to point B, potential energy of how much water reservoir in the dam will be converted into kinetic energy ?

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- (b) What will be the effect on electricity generation, if the channel taking water to turbine starts at point A ?
- (c) What will be the effect on electricity generation, if the channel taking water to turbine starts at point C ?
- (v) Cockroach, Frog, Sparrow, Star fish, from these animals which can regenerate its broken body part ?
- (vi) Complete the diagram showing various processes in tissue culture.



(vii) Which fuels are obtained from biomass ?

(viii) Complete the following passage by using appropriate words given in brackets :

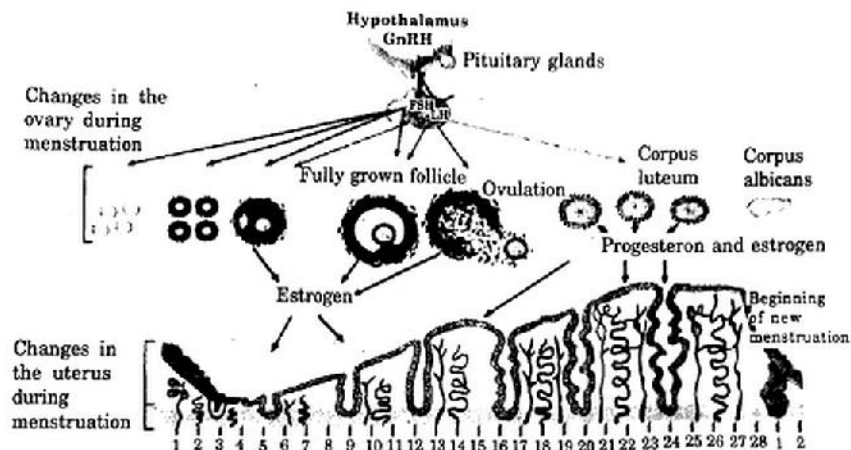
(Delhi, 12, 2005, army, National Disaster, rescue work, State Reserve Police, 2015)

National Disaster Response Force has been established as per the Disaster Management Act, Divisions of this force are working in army. Overall, divisions are working in the country. Its headquarter is in and it is in action all over the country with the help of In Maharashtra, Response Force is in action through State Reserve Police Force. Personnel of this force have substantial contribution in in disasters like cyclones, cliff-sliding, building collapse, etc.

4. Answer any *one* of the following questions :

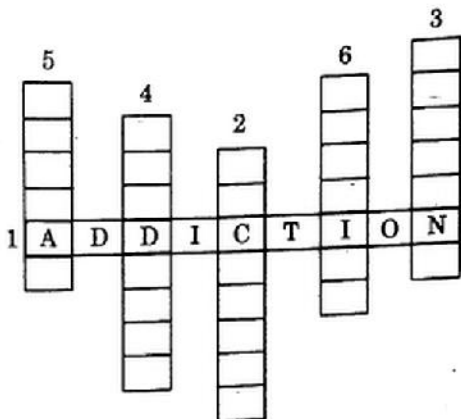
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(i) Answer the following questions by observing the diagram of menstrual cycle :



- What is the period of menstruation ?
- On which day does ovulation occur during menstrual cycle ?
- In menstrual cycle which reproductive organs undergo changes ?
- Which period is said to be period of regeneration of endometrium ?
- Which period is said to be period of secretions of glands in endometrium ?

(ii) Solve the following cross word :



- (1) Continuous consumption of alcoholic and tobacco materials.
- (2) This app may cause the cyber crimes.
- (3) A remedy to resolve stress.
- (4) Requirement for stress free life.
- (5) Various factors affect health.
- (6) Art of preparing food items.