

IMPORTANT QUESTIONS (SOLVED) , BIOLOGY, CLASS:XII

UNIT:1, REPRODUCTION

1 MARK QUESTIONS:

Q1 WHAT TERM IS GIVEN BY YOU TO THE GROUP OF INDIVIDUALS WHICH ARE GENETICALLY AND MORPHOLOGICALLY IDENTICAL ?

ANS. CLONE

Q2.WHY ARE DATE PALMS REFFERED TO AS DIOECIOUS ?

ANS. BECAUSE THEY HAVE UNISEXUAL FLOWERS BORNE ON SEPARATE PLANTS.

Q3. NAME THE PHENOMENON AND ONE BIRD WHERE THE FEMALE GAMETE DIRECTLY DEVELOPS INTO A NEW ORGANISM.

ANS. PARTHENOGENESIS, TURKEY.

Q5. WHAT IS PERISPERM ?

ANS. THE RESIDUAL NUCELLUS, WHICH PERSISTS IN THE SEEDS IS CALLED AS PERISPERM.

Q6. NAME THE TYPE OF FLOWER WHICH FAVOURS CROSS POLLINATION.

ANS. CHASMOGAMOUS.

Q7. NAME THE PROTECTIVE SUBSTANCE PRESENT IN THE POLLEN ENVELOPE TO TIDE OVER ADVERSE CONDITIONS.

ANS. SPOROPOLLENIN.

Q8. AT WHAT STAGE IS THE MAMMALIAN EMBRYO IMPLANTED IN THE UTERUS ?

ANS. AT THE BLASTOCYST STAGE.

Q9. WRITE THE LOCATION AND FUNCTION OF SERTOLI CELLS IN HUMANS.

ANS. IN THE SEMINIFEROUS TUBULES OF TESTIS, NOURISHES DEVELOPING SPERMS.

Q10.WHEN DO THE OOGENESIS AND THE SPERMATOGENESIS INITIATE IN HUMAN FEMALES AND MALES RESPECTIVELY ?

ANS. OOGENESIS AT THE FOETAL LIFEAND SPERMATOGENESIS STARTS AT PUBERTY.

TWO MARKS QUESTIONS

Q1.WHY IS THE PROCESS OF FERTILISATION IN A FLOWERING PLANT REFFERED TO AS DOUBLE FERTILISATION ?

ANS. DOUBLE FERTILISATION= SYNGAMY + TRIPLE FUSION

SYNGAMY= ONE MALE GAMETE + EGG---→ ZYGOTE(n)

TRIPLE FUSION= ANOTHER MALE GAMETE+ POLAR NUCLEI-→PRIMARY ENOSPERM NUCLEUS(3n)

Q2. STATE ONE ADVANTAGE AND ONE DISADVANTAGE OF CLEISTOGAMY.

ANS. ADVANTAGE: ASSURED SEED SET

DISADVANTAGE: INBREEDING DEPRESSION.

Q3. WRITE THE FUNTION OF EACH OF THE FOLLOWING:

(a) MIDDLE PIECE OF HUMAN SPERM

(b) LUTEINIZING HORMONE IN HUMAN MALES

ANS. (a) PROVIDES ENERGY FOR MOVEMENT DUE TO PRESENCE OF MITOCHONDRIA.

(c) STIMULATES SYNTHESIS AND SECRETION OF ANDROGENS.

Q4. WHAT IS CORPUS LUTEUM ? UNDER WHAT CONDITIONS DOES IT UNDERGO DEGENERATION ?

ANS. THE CORPUS LUTEUM IS FORMED IN THE MAMMALIAN OVARY FROM RUPTURED GRAAFIAN FOLLICLE AFTER OVULATION. IT DEGENERATES IN THE ABSENCE OF FERTILISATION, AS THE LEVEL OF FSH AND LH DROPS.

Q5. DIFFERENTIATE BETWEEN MORULA AND BLASTULA STAGES OF MAMMALIAN EMBRYO.

ANS. MORULA: (i) 8 TO 16 CELLED STAGE EMBRYO

(ii) SOLID WITHOUT ANY CAVITY

BLASTULA: (i) 32 CELLED STAGE EMBRYO.

(ii) HOLLOW WITH A CAVITY CALLED BLASTOCOEL

Q6. DESCRIBE THE CONTRACEPTIVE ACTIONS OF IUDs.

ANS. (i) INCREASES PHAGOCYTOSIS OF SPERMS

(ii) SUPPRESS SPERM MOTILITY

(iii) SUPPRESS FERTILISING CAPACITY OF SPERMS

(iv) MAKES CERVIX HOSTILE TO SPERMS.

Q7. EXPAND THE FOLLOWING:

(i) ZIFT   ANS. (i) ZYGOTE INTRA FALLOPIAN TRANSFER

(ii) ICSI       (ii) INTRACYTOPLASMIC SPERM INJECTION

(iii) GIFT       (iii) GAMETE INTRA FALLOPIAN TRANSFER

(iv) IUT       (iv) INTRA UTERINE TRANSFER.

### THREE MARKS QUESTIONS

Q1.(A) MENTION ANY FOUR STRATEGIES ADOPTED BY FLOWERING PLANTS TO PREVENT SELF-POLLINATION.

(B) DEFINE THE TERM EMASCULATION.

ANS.(a) (i) SELF INCOMPATIBILITY

(ii) PRODUCTION OF UNICELLULAR FLOWERS

(iii) ANTERS AND STIGMA ARE PLACED AT DIFFERENT POSITIONS.

(iv) MATURATION OF ANTHER AND STIGMA IS NOT SYNCHRONISED.

(B) EMASCULATION: REMOVAL OF ANTHER BEFORE MATURITY SO AS TO ENSURE CROSS POLLINATION IN SELF POLLINATING FLOWERS.

Q2. DRAW NEAT AND WELL LABELLED DIAGRAM OF ANATROPUS OVULE SHOWING MATURE EMBRYO-SAC.

ANS. DIAGRAM AS GIVEN IN NCERT BOOK.

Q3. WHAT IS APOMIXIS? DESCRIBE ITS IMPORTANCE?

ANS. IT IS THE PROCESS OF DEVELOPMENT OF SEEDS WITHOUT FERTILISATION. EXAMPLE: SOME SPECIES OF ASTERACEAE AND GRASSES.

IMPORTANCE: APOMICTIC GENES CAN BE INTRODUCED IN HYBRID SEED INDUSTRY.

Q4. (a) IN WHICH PART OF HUMAN FEMALE REPRODUCTIVE SYSTEM DO THE FOLLOWING EVENTS TAKE PLACE.

- (i) RELEASE OF FIRST POLAR BODY
- (ii) RELEASE OF SECOND POLAR BODY
- (iii) FERTILISATION
- (iv) IMPLANTATION

(b) NAME TWO HORMONES SECRETED ONLY DURING PREGNANCY.

ANS (a) (i) OVARY

(ii) FALLOPIAN TUBE

(iii) AMPULLA-ISTHAMUS JUNCTION OF FALLOPIAN TUBE

(iv) ENDOMETRIUM LINING OF UTERUS

(b) HUMAN CHORIONIC GONADOTROPIN AND HUMAN PLACENTAL LACTOGEN

Q5. DRAW NEAT AND WELL LABELLED DIAGRAM OF T.S OF HUMAN TESTIS.

ANS . DIAGRAM AS PER NCERT WITH SIX IMP. LABELLINGS.

#### FIVE MARKS QUESTIONS

Q1. DESCRIBE THE PROCESS OF OOGENESIS IN HUMAN FEMALE AND DIFFERENTIATE IT WITH SPERMATOGENESIS ON THE BASIS OF TIME OF INITIATION AND THE PRODUCTS FORMED.

ANS. OOGENESIS : DIAGRAMMATIC REPRESENTATION AS GIVEN IN NCERT.

DIFFERENCES BETWEEN :

OOGENESIS

SPERMATOGENESIS

(i) STARTS DURING FOETAL LIFE

(i) STARTS DURING PUBERTY

(ii) PRODUCTS: OVUM

(ii) SPERMS

Q2. DESCRIBE VARIOUS STEPS INVOLVED DURING DEVELOPMENT OF MALE GAMETOPHYTE IN ANGIOSPERMS

ANS. MICROSPOROGENOUS TISSUE directly behave as → MICROSPORE MOTHER CELL(2n)  
 meiosis-1 & 2 → MICROSPORE TETRAD →

MICROSPORE unequal division → LARGE VEGETATIVE CELL

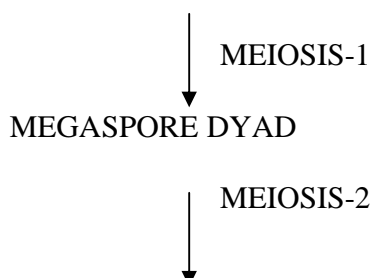
→ SMALL GENERATIVE CELL → division →

TWO MALE GAMETES.

( draw diagram as per ncert)

Q3. DESCRIBE VARIOUS STEPS INVOLVED IN THE DEVELOPMENT OF FEMALE GAMETOPHYTE(EMBRYO- SAC) IN ANGIOSPERMS.

ANS. MEGASPORE MOTHER CELL



MEGASPORE TETRAD

Out of 4 megaspores 3 degenerate



ONE FUNCTIONAL MEGASPORE

Undergoes 3 successive nuclear division, followed by cell division



FORMATION OF SEVEN CELLED AND 8 NUCLEATE EMBRYO- SAC  
( monosporic type of embryo –sac )

(draw diagram as per ncert)