

NEET HUMAN REPRODUCTION — FERTILISATION AND IMPLANTATION — PYQS

Max. Marks: 72

Questions: 18

Section A (MCQ) — 18 questions

Q.1 Twins are born to a family that lives next door to you. The twins are a boy and a girl. Which of the following must be true? [NEET (UG) 2025]

- (1) They were conceived through in vitro fertilization.
- (2) They have 75% identical genetic content.
- (3) They are monozygotic twins.
- (4) They are fraternal twins.

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Q.2 Given below are two statements: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**.

Assertion (A): Endometrium is necessary for implantation of blastocyst.

Reason (R): In the absence of fertilization, the corpus luteum degenerates that causes disintegration of endometrium.

In the light of the above statements, choose the correct answer from the options given below:

[NEET (UG) 2023]

- (1) Both A and R are true but R is NOT the correct explanation of A.
- (2) A is true but R is false.
- (3) A is false but R is true.
- (4) Both A and R are true and R is the correct explanation of A.

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Q.3 Receptors for sperm binding in mammals are present on : [NEET (UG) 2021]

- (1) Zona pellucida (2) Corona radiata
- (3) Vitelline membrane (4) Perivitelline space

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Q.4 Meiotic division of the secondary oocyte is completed [NEET (UG) 2020]

- (1) At the time of fusion of a sperm with an ovum
- (2) At the time of copulation
- (3) Prior to ovulation
- (4) After zygote formation

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Q.5 Extrusion of second polar body from egg nucleus occurs : [NEET (UG) 2019]

- (1) Before entry of sperm into ovum
- (2) Simultaneously with first cleavage
- (3) After entry of sperm but before fertilization
- (4) After fertilization

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Q.6 Capacitation occurs in [NEET 2017]

- (1) epididymis
- (2) vas deferens
- (3) female reproductive tract
- (4) rete testis

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Q.7 Fertilisation in humans is practically feasible only if [NEET 2016 (Phase 1)]

- (1) the ovum and sperms are transported simultaneously to ampullary-isthmic junction of the cervix
- (2) the sperms are transported into cervix within 48 hrs of release of ovum in uterus
- (3) the sperms are transported into vagina just after the release of ovum in Fallopian tube
- (4) the ovum and sperms are transported simultaneously to ampullary-isthmic junction of the Fallopian tube.

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Q.8 Ectopic pregnancies are referred to as [AIPMT 2015]

- (1) implantation of defective embryo in the uterus
- (2) pregnancies terminated due to hormonal imbalance
- (3) pregnancies with genetic abnormality
- (4) implantation of embryo at site other than uterus.

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Q.9 Capacitation refers to changes in the

[AIPMT 2015 (Cancelled)]

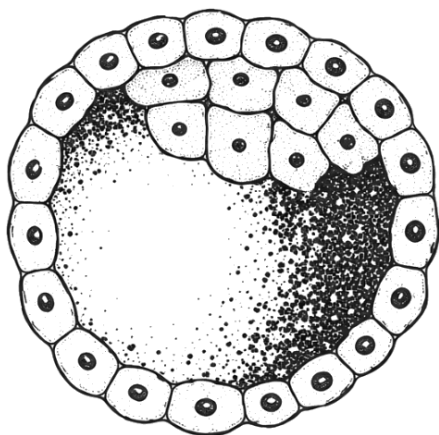
- (1) ovum after fertilisation
- (2) sperm after fertilisation
- (3) sperm before fertilisation
- (4) ovum before fertilisation

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Q.10 Identify the human developmental stage shown below as well as the related right place of its occurrence in a normal pregnant woman, and select the right option for the two, together.

[AIPMT 2012 (Mains)]



- (1) Developmental stage → Late morula, Site of occurrence → Middle part of Fallopian tube
- (2) Developmental stage → Blastula, Site of occurrence → End part of Fallopian tube
- (3) Developmental stage → 8-celled morula, Site of occurrence → Starting point of Fallopian tube
- (4) Developmental stage → Blastocyst, Site of occurrence → Uterine wall

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Q.11 Which one of the following statements is false in respect of viability of mammalian sperm?

[AIPMT 2012 (Prelims)]

- (1) Viability of sperm is determined by its motility
- (2) Sperms must be concentrated in a thick suspension
- (3) Sperm is viable for only up to 24 hours
- (4) Survival of sperm depends on the pH of the medium and is more active in alkaline medium

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Q.12 What happens during fertilization in humans after many sperms reach close to the ovum?

[AIPMT 2011 (Mains)]

- (1) Only two sperms nearest the ovum penetrate zona pellucida
- (2) Secretions of acrosome help one sperm enter cytoplasm of ovum through zona pellucida
- (3) All sperms except the one nearest to the ovum lose their tails
- (4) Cells of corona radiata trap all the sperms except one.

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Q.13 In human female the blastocyst

[AIPMT 2010 (Mains)]

- (1) gets implanted into uterus 3 days after ovulation
- (2) gets nutrition from uterine endometrial secretion only after implantation
- (3) gets implanted in endometrium by the trophoblast cells
- (4) forms placenta even before implantation

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Q.14 The second maturation division of the mammalian ovum occurs

[AIPMT 2010 (Prelims)]

- (1) Shortly after ovulation before the ovum makes entry into the Fallopian tube
- (2) Until after the ovum has been penetrated by a sperm
- (3) Until the nucleus of the sperm has fused with that of the ovum
- (4) in the Graafian follicle following the first maturation division

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Q.15 Which one of the following statements about morula in humans is correct? [AIPMT 2010 (Prelims)]

- (1) It has almost equal quantity of cytoplasm as an uncleaved zygote but much more DNA
- (2) It has far less cytoplasm as well as less DNA than in an uncleaved zygote
- (3) It has more or less equal quantity of cytoplasm and DNA as in uncleaved zygote
- (4) It has more cytoplasm and more DNA than an uncleaved zygote

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Q.16 Grey crescent is the area - [AIPMT 2005]

- (1) Just opposite to the site of entry of sperm into ovum
- (2) At the point of entry of sperm into ovum
- (3) At the vegetal pole
- (4) At the animal pole

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Q.17 What is true for cleavage? [AIPMT 2002]

- (1) Size of embryo decreases
- (2) Size of embryo increases
- (3) Size of cells increases
- (4) Size of cells decreases

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Q.18 Cleavage in mammals is [AIPMT 2000]

- (1) holoblastic equal (2) holoblastic unequal
- (3) superficial (4) discoidal.

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	4	1	1	1	3	3	4	4	3	4	3
Ques.	12	13	14	15	16	17	18				
Ans.	2	3	2	1	1	4	2				