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|  University of Sadat City | Academic Year: | 2018-2019 1 st term | Academic Program: | Animal Biotechnology (Master) | N. of Exam Paper: | 1 |  GEBRI |
| | Level: | Master | Department: | Animal Biotechnology | Date of Exam: | 16-1-2019 | |
| | Course Name: | Embryo Manipulation | Total score: | 60 | Time allowed: | 3 hrs. | |

Instructions of Exam:

1. Answer the obligatory questions.
2. Use the blue pen and pencil in answer sheet
3. Allow one sheet answer for every student
4. Is not allowed to borrow the tools (pen, pencils, drawing tools, calculator ...etc)
5. Is not allowed to use the cell phone or any of its application during the time of exam

Answer the following questions:

1st question:

30 M

Give a brief account on the followings:

- A-** In Vitro Fertilization steps. 7.5 M
- B-** Intracytoplasmic Sperm Injection. 7.5 M
- C-** Success of IVF and ICSI. 7.5 M
- D-** Safety of IVF and ICSI. 7.5 M

2nd question:

15 M

Write short notes with drawings about the followings:

- A-** The role of capacitation and acrosome reaction of sperm in fertilization. 5 M
- B-** Embryo implantation and the organogenesis. 5 M
- C-** The oogenesis and different phases of menstrual cycle. 5 M

3rd question:

15 M

Discuss in detail with drawing the followings:

- A-** The relationship between the type of egg according to yolk amount and distribution; and the different patterns of cleavage. 8 M
- B-** The role of different assisted reproductive technologies in infertility treatment. 7 M

With best wishes

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| Professor of Course | Prof. Dr. Bahgat Elkeky | Course coordinator | Ass. Prof. Dr. Osama Badr |
| Staff Course | Prof. Dr. Bahgat Elkeky Ass. Prof. Dr. Osama Badr | Department Head | Prof. Dr. Omaira Khamiss |
| Exam group | Prof. Dr. Bahgat Elkeky, Ass. Prof. Dr. Osama Badr and Dr. Ebrahim Sabra | | |

نموذج رقم: SQ0000000F101002

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