الهندسة الوراثية
9:11
الأحد 20/6/2021
أ.د/حمدى العارف , أ.د/محمد الخرشى

Faculty of Computers & Information, Assiut University
4th Level
Final Exam
Duration: 2 hours

1. الإسم الرباعي (بالعربي فقط) *

عائشة محمدصفوت عبدالرحمن محمد

2. رقم الجلوس *

1620175047

3. المستوي *

- الاول
- الثاني

- الثالث
- رابعة 2013
- رابعة 2014
- رابعة 2015
- رابعة 2016
- رابعة 2017

4. البرنامج *

- عام
- بايو
- هندسة

5. رقم المعمل *

- ج•
- د•
- اب
- اد
- اهـ
- أ٢
- آب
- ج٢
- د٢
- هـ٢
- أ٣

- ٣ب
- ٣ج
- ٣د
- ٣هـ
- ٤أ
- ٤ب

6. رقم الكمبيوتر *

19

7. الكود (قد تمت مراجعة بيانات الطالب ورقم الجلوس) *

DiqC

8. tra genes are presented in .....
(2 Points)

- F-Plasmids
- R-Plasmids
- Col-Plasmids
- Virulence Plasmids

9. Antibiotic resistance of bacteria is controlled by its own genes.
(2 Points)

- True

- False

10. Methylation is what bacteria used to protect its DNA from virus.
    (2 Points)

    - True
    - False

11. ..... has a dual activity—DNA polymerization and DNA degradation.
    (2 Points)

    - DNA ligase
    - Nuclease
    - DNA polymerase-I
    - Methylation

12. It is recommended that the plasmid used in genetic engineering has unique sites for restriction enzymes.
    (2 Points)

    - True
    - False

13. Animal transfection can be done by microinjection, electroporation or lipofection.
    (2 Points)

    - True
    - False

14. A bacterium which can uptake foreign DNA is called .....
(2 Points)

- Prophage
- Episome
- Agrobacterium
- Competent cell

15. Plasmid DNA can be prepared using separation based on size or conformation.
(2 Points)

- True
- False

16. Plant transformation can be performed by Microinjection, Silica fibers and Ri-plasmids.
(2 Points)

- True
- False

17. A human promotor must be added, when it is desired to transfer a human gene into the bacterial cells.
(2 Points)

- True
- False

18. Transformation gene cassette should include .....
(2 Points)

- Reporter gene
- Promoter
- Terminator
- All answers

19. ..... is a virus DNA which is integrated into bacterial chromosome.
(2 Points)

- Prophage
- R-Plasmids
- Episome
- Virulence Plasmids

20. ..... is involved in biolistic gene gun.
(2 Points)

- Cupper
- PEG
- Gold
- Silica fibers

21. Phosphodiester bonds between DNA nucleotides are made by
(2 Points)

- DNA ligase

- DNA polymerase-I
- Terminal transferase
- Eco-R1

22. Electroporation is a biological method used in plant transformation.
(2 Points)

- True
- False

23. ..... is what bacteria used to protect its DNA from endonucleases.
(2 Points)

- Methylation
- Resistance
- Degradation
- Transfection

24. ..... is involved in synthesis of recombinant insulin
(2 Points)

- Gold
- Cyanogen bromide
- PEG
- Lipofection

25. The small size of the Ti plasmid makes manipulation of the molecule very easy.
(2 Points)

- [x] True
- [ ] False

26. DNA concentration can be determined at ..... wavelength.
(2 Points)

- [ ] 230nm
- [ ] 260nm
- [x] 270nm
- [ ] 280nm

27. To insert new DNA into Ti-plasmid the binary vector strategy could be used.
(2 Points)

- [x] True
- [ ] False

28. ..... are capable of infecting non-dividing and actively dividing cell types.
(2 Points)

- [ ] Retroviruses
- [x] Lentiviruses
- [ ] Bacteriophage
- [ ] Ti-Plasmid

29. Herbicide's resistance is one of genetic engineering applications in Agriculture.
(2 Points)

- [x] True

- False

30. Animal cloning is based on cell division stimulation of .....
(2 Points)

- Somatic cell
- Egg cell
- Fertilized egg
- T-cell

31. Animal biotechnology can be achieved by transfection or infection approaches.
(2 Points)

- True
- False

32. ..... is a chemical method in plant transformation.
(2 Points)

- Microinjection
- PEG
- Transfection
- Floral dip

33. ..... adds phosphate groups onto free 5′ termini.
(2 Points)

- Polynucleotide kinase
- Nucleases

- Alkaline phosphatase
- DNA polymerase-I

34. ..... allow the host bacterium to metabolize unusual molecules such toluene and salicylic acid.
(2 Points)

- F-Plasmids
- R-Plasmids
- Degradation plasmids
- Virulence Plasmids

35. ..... can be used to transfer new genes into plant cells.
(2 Points)

- Ti-Plasmid
- Gene gun
- Silica fibers
- All answers

36. There are three types of ends resulted by restriction enzymes: Blunt, 3`-Sticky, and 5`-Sticky ends fragments.
(2 Points)

- True
- False

37. Antibiotic resistance of bacteria is controlled by ..... genes.
(2 Points)

- Bacteria'
- R-Plasmid
- Prophage
- All answers

38. ..... is a direct insertion of recombinant plasmids into animal cells.
(2 Points)

- Transfection
- Methylation
- Infection
- All answers

39. ..... adds one or more deoxyribonucleotides onto the 3′ terminus.
(2 Points)

- Terminal transferase
- Polynucleotide kinase
- Endonuclease
- Alkaline phosphatase

40. ..... genes code for colicins, proteins that kill other bacteria.
(2 Points)

- F-Plasmids
- R-Plasmids
- Col-Plasmids
- Virulence Plasmids

41. Alkaline phosphatase removes the phosphate group at the 3` ends of a DNA molecule.
(2 Points)

- True
- False

42. PEG is NOT involved in synthesis of recombinant Insulin.
(2 Points)

- True
- False

43. ..... is the enzyme which retroviruses used in the host cell.
(2 Points)

- Primase
- Reverse transcriptase
- DNA ligase
- Terminal transferase

44. ..... is a plasmid which is integrated into bacterial chromosome.
(2 Points)

- Prophage
- R-Plasmid
- Episome
- Virulence Plasmid

45. Endonucleases remove nucleotides one at a time from the end of a DNA molecule.
(2 Points)

- True
- False

46. ..... confer pathogenicity on the host bacteria.
(2 Points)

- F-Plasmids
- R-Plasmids
- Degradation plasmids
- Virulence Plasmids

47. Exonuclease can break internal phosphodiester bonds within a DNA molecule.
(2 Points)

- True
- False

48. Insertion inactivation is being used in the selection of transformed cells.
(2 Points)

- True
- False

49. ..... like other polymerases, needs a primer to do its job.
(2 Points)

- DNA ligase
- RNA polymerase
- Terminal transferase
- Reverse transcriptase

50. ..... degrade DNA molecules by breaking the phosphodiester bonds.
(2 Points)

- DNA ligases
- Nucleases
- DNA polymerases
- Methylation

51. A suitable plasmid for gene cloning should contain selectable markers.
(2 Points)

- True
- False

52. Ti-plasmid could be used to transport new genes into plant cells.
(2 Points)

- True
- False

53. Meristem transformation is one of the plant transformation methods
(2 Points)

- True

- ○ False

54. Reverse transcriptase is a nuclease that synthesize DNA from RNA.
(2 Points)

- ○ True
- ◉ False

55. Transformation gene cassette should include transcription recognition sequence.
(2 Points)

- ◉ True
- ○ False

56. N-butanol is used in plasmid DNA isolation.
(2 Points)

- ◉ True
- ○ False

57. Plant transformation can be performed by viruses.
(2 Points)

- ◉ True
- ○ False