

Program: BE Biotechnology Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester VI

Course Code: BTC602 and Course Name: Cell and Tissue Culture

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	Which of the following tissues can be used in case the mother plant is infected with a virus?
Option A:	Root Tip
Option B:	Shoot Tip
Option C:	Floral Bud
Option D:	Leaf Node
Q2.	Which of the following hormones is used for rooting?
Option A:	Auxin
Option B:	Cytokinin
Option C:	Gibberellic Acid
Option D:	Ethylene
Q3.	Which of the following plant hormone control fruit ripening?
Option A:	Ethylene
Option B:	Auxin
Option C:	Gibberellins
Option D:	Abscisic acid
Q4.	Which of the following method is NOT a part of Single Cell Culture technique?
Option A:	The Paper Raft Nurse Technique
Option B:	The Micro-chamber Technique
Option C:	The Micro-droplet Technique
Option D:	The Shake Culture Technique
Q5.	Which of the following is the method behind Somatic Hybridization?
Option A:	Fusion of two somatic cells
Option B:	Fusion of one somatic cell and one germ cell
Option C:	Fusion of two germ cells
Option D:	Fusion of one germ cell and one embryo
Q6.	In Somatic Embryogenesis _____ cells are converted to embryos
Option A:	Somatic

Option B:	Germ
Option C:	Protoplast
Option D:	E-nucleated
Q7.	Scale up of Plant Tissue Culture is Commonly Employed in _____
Option A:	Artificial Seeds preparation
Option B:	Organogenesis
Option C:	Organ Culture
Option D:	Single Cell culture
Q8.	Ti plasmid vectors include
Option A:	Multiple vector and binary vector
Option B:	Cointegrate vector and multiple vector
Option C:	Binary vectors and cointegrate vectors
Option D:	Ti plasmid vectors
Q9.	Chemicals used for gene transfer method include
Option A:	Polyethylene glycol
Option B:	CaNO ₃
Option C:	Molybdenum
Option D:	Glucose
Q10.	Because of large size of Ti-plasmid, intermediate vectors (IV) are developed in which T DNA has been subcloned into
Option A:	pRN3
Option B:	pRK 2013
Option C:	pCR 322 based plasmid vector
Option D:	pBR 322 based plasmid vector
Q11.	Which of the following chemical enhances vir gene expression?
Option A:	Cyaniding
Option B:	glutenin
Option C:	Acetosyringone
Option D:	Dextran
Q12.	Which of the following is the characteristics of a normal cell?
Option A:	Anchorage independent
Option B:	Continuous cell lines
Option C:	Dependent on external growth factor
Option D:	No contact inhibition
Q13.	Which of the following is NOT the part of growth medium for animal culture?
Option A:	Starch
Option B:	Serum
Option C:	Carbon source

Option D:	Inorganic salts
Q14.	Which of the following is NOT the major function of the serum?
Option A:	Promotion of tuber and bulb formation
Option B:	Stimulate cell growth
Option C:	Enhance cell attachment
Option D:	Provide transport proteins
Q15.	Complete media is
Option A:	Also called kitchen sink media
Option B:	Necessary for some animal cells
Option C:	supports the growth and proliferation of animal cells
Option D:	facilitates detachment of adherent animal cells
Q16.	Trypsin is a _____ enzyme.
Option A:	Amylolytic
Option B:	Cellulolytic
Option C:	Proteolytic
Option D:	Bacteriolytic
Q17.	_____ is an effective cryoprotectant.
Option A:	Amyl
Option B:	DMSO
Option C:	Trypsin
Option D:	Liquid Nitrogen
Q18.	Accumulation of lactate leads to
Option A:	increase in pH
Option B:	no change in pH
Option C:	reduction in the pH of culture hence loss of cell viability
Option D:	no loss of cell viability
Q19.	Cell surface proteins that promote cell-cell contact cause cells to do which of the following?
Option A:	find other cells
Option B:	anchor to plastic surfaces
Option C:	stop growing due to contact inhibition
Option D:	allow cells to know where they are located
Q20.	What does FISH detect?
Option A:	Protein structure abnormalities
Option B:	Specific chromosome copy number aberrations
Option C:	Presence of specific antigens
Option D:	Presence of complement

Q21.	_____ is a karyotype in which the homologous pairs of chromosomes are manipulated in such a way that they have distinctive colors.
Option A:	Digital Karyotype
Option B:	Spectral karyotype (SKY)
Option C:	Colorimetric karyotyping
Option D:	Basic Karyotyping
Q22.	_____ is paired constituent of a chromosome linked by a centromere.
Option A:	DNA
Option B:	Chromatid
Option C:	Chromatin
Option D:	Spindle fibres
Q23.	Which of the following is a preferred method for production of antisense nucleotides
Option A:	mammalian cell culture
Option B:	chemical synthesis
Option C:	microbial synthesis
Option D:	plant tissue culture
Q24.	Without genetic engineering technique INF production can be achieved in animal cell cultures by
Option A:	optimising media
Option B:	infecting the cell line with virus
Option C:	varying pH
Option D:	varying temperature of incubation
Q25.	Which of the following cannot be used for antibody production using cell culture
Option A:	production of heavy chain and light chain separately in different cells
Option B:	hybridoma technology
Option C:	rDNA introduction of only heavy chain
Option D:	growing B-cell fused myeloma cells for antibody production

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	A
Q3.	A
Q4	D
Q5	A
Q6	A
Q7	A
Q8.	C
Q9.	A
Q10.	D
Q11.	C
Q12.	C
Q13.	A
Q14.	A
Q15.	C
Q16.	C
Q17.	B

Q18.	C
Q19.	C
Q20.	B
Q21.	B
Q22.	B
Q23.	B
Q24.	B
Q25.	C