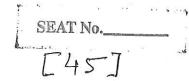
Note: Answer to all questions (including multiple choice questions) should be written in the provided answer book only.

Number of Printed Pages = 2



SARDAR PATEL UNIVERSITY
M.Sc (IV Semester) Examination (CBCS)
Thursday, 02nd Nov, 2017
2:00 p.m. to 5:00 pm
Biochemistry
PS04CBIC01 – Animal Biotechnology

Se

TOTAL MARKS: 70

Q.1 Tick mark / select the correct answer for the following. (Only correct option against given question number needs to be written in provided answer book) (08 Marks)

- 1) Which tissue is thin and specialized for the diffusion of gases and ions?
 - a) cuboidal epithelial
 - b) connective
 - c) simple squamous epithelium
 - d) simple columnar epithelium
- 2) For in vitro work, cells sediment satisfactorily at
 - a) 100 120 g
 - b) 120 120 g
 - c) 80 100 g
 - d) 60 80g
- 3) One of the following constituent is included in most media as a source of energy:
 - a) Hormones
 - b) Fructose
 - c) Glucose
 - d) Growth factors
- 4) One of the following is the most reliable enzyme based cell death assays because it does not lose its activity during cell death assays:
 - a) Phenol red
 - b) Glucose -6-phosphate
 - c) Lactate dehydrogenase
 - d) Methyl Orange
- 5) One of the following enzyme is not a part of Isoenzyme Electrophoresis with Authentikit:
 - a) Glucose -6-phosphate dehydrogenase
 - b) Malate dehydrogenase
 - c) Aspartate aminotransferase
 - d) Superoxide dismutase
- 6) One of the following is not used to selectively grow tumor cells:
 - a) Confluent feeder layers
 - b) Suspension cloning
 - c) Histotypic culture
 - d) Embryo culture
- 7) Growth medium used for culture of mammary epithelium is:
 - a) L -15 Leibivitz medium

c) Ham's F-12 medium

b) · DMEM

- d) RPMI 1640
- 8) One of the following is one of the oldest and most commonly used human cell lines.
 - a) CHO

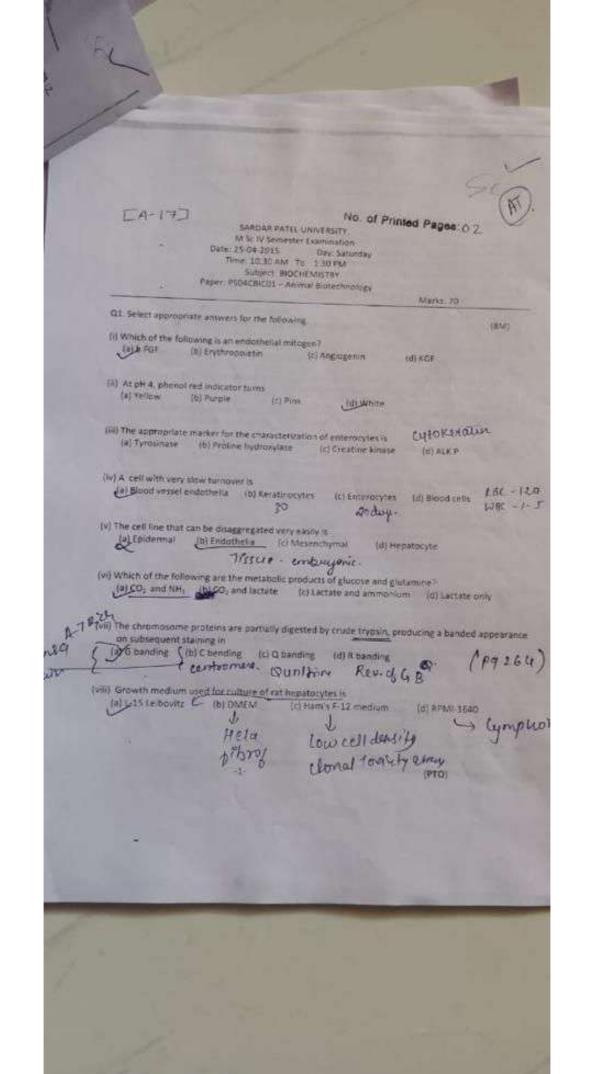
c) H9c2

b) HepG2

d) HeLa

Q.2	Ansv a) b) c) d) e) f) g) h)	wer any seven from the following: State the major applications of animal tissue culture? List the various equipments required to set up a cell culture lab? What is cell transformation? Which enzymes are used in enzymatic Disaggregation? Describe the morphology of epithelial cells and fibroblast cells during culture at subconfluence and confluence. State two points of difference between monolayer and suspension culture What is contact inhibition? Explain the terms 'anchorage dependent' and 'anchorage independent' cells. State the factors that necessitate the need for replacement of medium?	14
Q.3	(A)	How can you establish a cell line starting from primary culture	6
	(B)	"An <i>in vitro</i> system can never be an exact replica of <i>in vivo</i> system" Justify this statement explaining the major differences in cell behavior between cultured cells and their counterparts <i>in vivo</i>	6
	(B)	OR Describe structure of extracellular matrix in brief and add a note on the importance of extracellular matrix in animal cell culture	6
Q.4	(A)	Describe the advantages and disadvantages of using serum in animal cell culture media.	6
	(B)	State the chemical, physical and metabolic functions of any six constituents of culture medium.	6
	(B)	OR Write short notes on (1) Embryo Sexing (2) Outline classification of epithelial tissue	6
Q.5	(A)	What is tissue disaggregation? What are different ways by which a tissue can be disaggregated after isolation and dissection	6
	(B)	Give detailed information of different assays performed to understand the toxicity of a compound on the cultured cells	6
	(B)	OR Why should we characterize the cell lines? Describe any one approach for characterization of a particular cell line.	6
Q.6	(A)	Write short note on embryonic stem cell and add a note on any three therapeutic application of stem cell.	6
	(B)	Write short notes on assisted reproductive technology OR	6
	(B)	Write short note on transgenic animals	6







[63]

No. Of Printed Pages: &

SANDIAR PATEL UNIVERSITY M Sc IV Semester Examination Date 07-04-2016 Day: We Day: Toursday Time: 02.30 PM Tu 05.30 PM Subject: BIOCHEMISTRY

Paper PSO4CHICUS - Animal Nintechnology 64.00km 70 (884) Q1. Select appropriate answer for the following (ii) The signal for the differentiation of epideemal keratinecytes is received from Litt Mouronal cette uminal Amphornes (b) Fibroblast (c) Melanocytes (6) Which of the following is not a DNA fisomorphisms but is conventionally used for measuring DNA content? (AST) IN DAM CA = T PE Harmatorylin (b) Hoechst 33258 (c) Propolinon value Recj Productie (NI) Dilution cloning is based on the observation that the cerel (a) Cells grow best in diluted medium
(b) Cells get diluted below certain density to form discrete colonies
(c) Cells get more oxygen in diluted medium.
(d) Cells can be induced to proliferate to reach to confluence very first. (iv) The oldest and most commonly used cell line is - Caldiela (b) Jurkat (c) Vero cells (d) F11 calls (v) Cells which have undergone transformation frequently become (b) Anchorage dependent — PLE disturbers 40 (d) Density dependent WOYNELD. LATAnchorage independent gruyan. (c) Stable (vi) The most appropriate assay to measure imitability response in cultured cells is by MITTALIAL (b) Using tetrazolium sult assay (a) Measuring level of growth hormone (c) Monitoring cytokine level (d) Measuring membrane polarity (vii) The enzymatic marker for the characterization of endothelig is (a) Croatine kinase (Muscrecell) (b) Tyrosmase (Melanoutes) (d) Agglotonsin converting enzyme (c) DOPA decarboxylase (N eurona) (viii) The planing efficiency of cells can be checked during (b) Log phase (a) Lag phase (d) All the three growth phases (c) Pluteau phase

(PTO)

SARDAR PATEL UNIVERSITY
M.Sc (IV Semissor) Examination (CRCS)
Friday 12* April 2018
10:30 a.m. to 1:30 pm
Expolumistry
PS04CBIC01 - Animal Biolectnology [27] SEAT No. No. of Printed Pages :2 Q.) Tick mark / series the correct answer for the following. (Only correct oppose against given goasten number resids to (90 Marks) The predominant amon acids of cotagen are
 Stycere – Prome b Lyster-Cysteine c. Wither - Outarity sold d. Hydroxyproline - Glutamic acid 2 Which of the following is a cell line from speem?

2 WEH . MELLS! MULTILE.

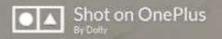
5 Caco Colon (Lange Tell) cerios Ulucoma indused Broken hydrocytase
 Protein hydrocytase
 Angularitist conventing enzyme & main Keratinowton steria The precommand signaling observed in malignantly transformed cells in a Endocrine distant of Autocome Sarris Cell.

D. Paracrine meaniby tell fining of autocome (281-Cell) CON-ECF 5 pH 4 i # acidic pH phenol red indicator tune a Yellow b Purie c. Pink d white 6. Which one of the following is the firstly established continuous human cell line 3 Vern b. A.549 -Hitta d. MCF-7 7. Which of the following cells are independent to sensochoe? a Germ cells b. Stem Cells Transformed Cells d. all of above 8. The role of glucose in cell culture media is a. Source of Aurogen Source of energy, carbon c. Adjusts osmotic pressure d Growth stimusator [PTO]

Shot on OnePlus

Number of Printed Pages = 2 SARDAR PATEL UNIVERSITY M Sc (by Semiration (CBCS) Thursday, 92° New, 2017 2:06 p.m. to 5:00 pm Biochemistry PS04CBIC01 - Animal Biotechnology SEAT NO. TOTAL MARKS: 70 Q 1 Tick mark / select the correct answer for the following. (Only correct option against given question number neight to be wrotten in provided answer book).

(Off Mark (0ii Manus) 1) Which tissue is thin and specialized for the diffusion of gases and one? a) cohoidal epithelial
 b) connective d) simple squamous opmelium d) simple columnar opthelium 2) For in vitro work, cells sediment satisfactorily at 8) 100 - 120.9 b) 120 - 120.9 c) 60 - 100.9 d) 60 - 80g One of the following constituent is included in most media as a source of energy
 Hormones
 Fricose
 Glucose d) Growth factors One of the following is the most reliable entryme based cell death assays because it does not love its activity during cell death assays: a) Phenology
b) Glucose 6 prosphate
A Tactate dehydrogenase
A Technology MYTA d) Methyl Orange One of the following enzyme is not a part of tsoenzyme Electrophoresis with Authorisis:
 Olicone -5 phosphate dehydrogenase
 Matate dehydrogenase
 Aspartate anninotransforuse Superoxide dismutase One of the following is not used to selectively grow turnor cells.
 Confluent feeder layers
 Suspension cloning c) Histotypic culture Embryo culture 7) Growth medium used for culture of marrymary epithelium is: a) L-75 Leibivitz medium c) Ham's F-12 medium b) DMEM 0 PPMI - 1640 8) One of the following is one of the oldest and most commonly used human cell lines. a) CHO () H9c2 b) Hop.G2 (d) Hela



Number of Printed Pages SARCAR PATEL UNIVERSITY M.Sc (IV Semester) Examination (CBCS)
Thursday, 02 Nov. 2017
2:00 p.m. to 5:00 pm Biochemistry
PROCESION - Animal Biotechnology TOTAL MARK Q.1 Tick mark / select the correct answer for the following. (Only correct option against given ques number regard to be written in provided answer books 1) Which tissue is thin and specialized for the diffusion of gases and lone? a) cuboidal epitheliai 2i) connective Sample squamous epithelium d) syncle columnar epithelium 2) For in vitro work, cells sediment satisfactorily at a) 100 - 120 g b) 120 - 120 g S-80-100 p d) 60-80g 3) One of the following constituent is included in most media as a source of energy a) Hormones b) Fructose Glucose d) Growth factors One of the following is the most reliable enzyme based cell death assays because it does its activity during cell death assays: a) Phenol red b) Glucose 6-phosphate C Lactate dehydrogenase d) Methyl Orange 5) One of the following enzyme is not a part of isoenzyma Electrophoresis with Authentikit a) Glucose -5-phosphate dehydrogenase b) Malate dehydrogenase c) Aspartate aminotransferase d) Superoxide dismutase 6) One of the following is not used to selectively grow tumor cells a) Confluent feeder layers b) Suspension cloning c) Histotypic culture Embryo culture 7) Growth medium used for culture of mammary epithelium is: c) Ham's F-12 medium a) L-15 Leibivitz medium 1 0 RPMI - 1640 b) DMEM 8) One of the following is one of the oldest and most commonly used human cell lines. c) H9c2 a) CHO d) Hela b) HepG2 Shot on OnePlus

Paper: PSO4CBICO1 - Animal Biotechnology

Q1 Select appropriate answers for the following. Marks: 70 (i) Which of the following is an endothelial mitogen? (8) (b) Erythropoietin (c) Angiogenin (d) KGF (ii) At pH 4, phenol red indicator turns (a) Yellow (b) Purple (c) Pink , (d) White (iii) The appropriate marker for the characterization of enterocytes is Cytokeratin (a) Tyrosinase (b) Proline hydroxylase (c) Creatine kinase (iv) A cell with very slow turnover is (a) Blood vessel endothelia (b) Keratinocytes RB (c) Enterocytes (d) Blood cells 30 WI (v) The cell line that can be disaggregated very easily is (a) Epidermal (b) Endothelia (c) Mesenchymal (d) Hepatocyte (vi) Which of the following are the metabolic products of glucose and glutamine? (a) CO2 and NH3 (b) CO2 and lactate (c) Lactate and ammonium (d) Lactate only (vii) The chromosome proteins are partially digested by crude trypsin, producing a banded appe on subsequent staining in (a) G banding (b) C bending (c) Q banding (d) R banding (viii) Growth medium used for culture of rat hepatocytes is (c) Ham's F-12 medium (d) RPMI-1640 (b) DMEM (a) 615 Leibovitz (PTO)



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SARDAR PATEL UMIVERSITY SPAT NO. M.Bc (IV Demoster) Examination (GBGS)
Friday, 13" April, 2018
10-00 a.m. to 1,00 pm

No. of Printed Pages 12

Biochemistry P804CBIC01 - Animal Biotechnology

Q.1 Tack mark / select the correct answer for the tollowing. (City correct option against gives question number needs to the written in provided arrawar book).

[38 Mark.]

1. The predominism amino acids of collagen are

Glycine - Proble

b. Lysme - Cysteine

- 6: Valine Glutanic sold
- d. Hydroxyprotine Ghytarric acid
- 2. Which of the following is a cell line from spleen?
 - a. WEHI
 - b Caco

- c Friend
 - d. HaCaT
- 3. Which enzyme marker is suitable for the characterization of macrophages?

- ---- Framination

- a Proline hydroxylese
- . 6 Glutarnyl synthecase
- Non specific esterase

- d Angiotemin convening enzyme
- 4. The predominant signating observed in malignantly transformed cells is
 - a Endocrine

a. Autocrine

b. Paracrine

- d Justnervie
- pH4 is acidic pH, phenol red indicator turns
 - a. Yellow
 - b. Purle
 - c. Pink
 - d. White
- 6. Which one of the following is the firstly established continuous human cell line
 - a. Vero
 - b. A 549
 - -Heta
 - d. MCF-7
- Which of the following cells are independent to senescence?
 - is. Germ cells
 - b. Stem Calls
 - C Transformed Cells
 - d. all of above
- 8. The role of glucose in cell culture media is
 - a. Source of nitrogen
 - Source of energy, carbon
 - c. Adjusts osmolic prosture
 - d. Growth stimulator

[PTO]

