Total number of printed pages-7

elles lo seem renni bet 3 (Sem-6/CBCS) ZOO HC 1 of embryo.

2022 (ii) Differentiated inner mass of cells

ZOOLOGY To

(iii) Und (crumond) trophoblest cells

Paper : ZOO-HC-6016

(Developmental Biology)

Time: Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer of the following: (any seven) the topological (ui) 1×7=7

fishi Primitive grooveloram (vi)

- (a) Rolling of sheet of cells over other cells during gastrulation is called as:
  - (i) Involution (i)
  - (ii) Ingression
  - (iii) Epiboly
  - (iv) Invagination (iii)

Strong (CBCS) 200 HC 1/0 2 8 0/1 OH OOX (EDED) 6-misc) 8

(b) Embryonic stem cells are derived from	(e) The type of regeneration found in hydra
(i) Undifferentiated inner mass of cells	about
of embryo	(i) Morphallaxis eyab 11 (i)
(ii) Differentiated inner mass of cells of embryo	(ii) Epimorphosis eysb 12 (ii)
(iii) Undifferentiated trophoblast cells	(iii) Regeneration 24 days (iii)
(iv) Differentiated trophoblast cells	(e) (iv) Healing symb 18 (vi)
(c) The only cell that can give rise to a complete new organism is	(f) In developmental biology, morula is
Time : Three hours	(i) Mercell stage dealdoreM (i)
(i) Pluripotent  situation and at at cornel and  (ii) Multipotent (iii) Multipotent	(ii) Discoidal de la 8 m (ii) (ii)
the correct answer of the following:	(iii) Superficial Ilao 61 (iii)
Choose the correct answer of the following:  (any seven) the topological description (vi) 1×7=7	(iii) 32 cell obtaidoloff (vi)
(d) In case of chick development, primary	(vi) The process relles to seam (vi) germ
organizer is called	(g) In frog, cleavage is
(i) Hensen's node single (ii)	(i) Holoblastic and equal (i)
(ii) Dorsal lip of blastopore	(ii) Holoblastic and unequal
(iii) Nieuwkoop centre	(iii) Meroblastic and unequal
(iv) Primitive groove	(iv) Meroblastic and discoidal
3 (Sem-6/CBCS) ZOO HC 1/G 2	3 (Sem-6/CBCS) ZOO HC 1/G 3 4 D\1 OH OOS (20 Contd. 2) 8

(h) The	e incubation period in chick tastes for
abo	out Undifferentiated inner regis of our
(i)	of embryo  11 days eixelledgrom (i)
(ii)	(ii) Epimorphosis syab 12
(iii)	24 days notis regeneration at cells
	ells (un Healing
(i) The	e type of cleavage found in insect is
(i)	Meroblastic state less
(ii)	Discoidal III 8 cell
(iii)	Superficial [16 cell ]
(iv)	Holoblastic Ilea 22 (iii)
(j) The	process in which the three germ
laye	ers form is called solo gori nl (g)
(i)	Cleavage is oitseldoloH (i)
(ii)	Gastrulation rasidoloHe (ii)
(iii)	Organogenesis aldoreM (iii)
(iv)	Metamorphosis doram (ui)
3 (Sem-6/CBCS) Z0	Sem-6/CBCS) ZOO HC 1/G 3 4 00/1 OH 00

Wri	te short notes on <b>any four</b> of the owing:  2×4=8
(a)	Stable cell interaction
(b)	ni brurol noitarana agga ladiisalomoH
(c)	Disco blastula
	Zonary placenta to send uno rewenA . A
(e)	Frozen embryo
ரி	(i) What is patterling mets treatoristor.  process of patterning along the ant
(g)	Meridional plane of cleavage
	Primary egg membrane
	wer <b>any three</b> of the following: 5×3=15
	Describe briefly the differential gene expression.
	Describe the process of spermatogenesis.
ation.	Describe different types of egg with example. qu ship of chick up slement of chick up
(d)	What are the fate of germ layers?
(e)	(v) What is fate maintain and a say of a typical chordate blastula.
Sem-6/CE	3CS) ZOO HC 1/G 5 0 D/I OH OOS (20 Contd

- Describe the metamorphic changes found in amphibians.
- Teratogenic agents.
- (b) Homolecith Biological theories of Aging. (c) Disco blastula
- Answer any three of the following: 0E=E×01

What is pattern formation? Describe the process of patterning along the anteriorposterior axis of Drosophila embryo. 01=8+2 (h) Primary egg membrane

What is cytoplasmic determinant? Describe the process of asymmetric segregation of cellular determinants. 01=8+2 escribe briefly the differential gene

3 (Sem-6/CBCS) 200 HC 1/G 5

- (iii) Describe the mechanism of fertilization .zizen with labelled diagram.dr edinoze 7+3=10
- (iv) Describe the process of early development of chick up to gastrulation. Ofd) What are the fate of germ layers?
- (v) What is fate map? Describe the fate map of a typical chordate blastula. 3+7=10

- (vi) Describe the process of implantation of 10 human embryo.
- (vii) What is regeneration? Describe the morphallactic regeneration found in 2+8=10 Hydra.
- (viii) What is IVF? Describe the technique 2+8=10 used in IVF.