

Total No. of Questions: 6

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Enrollment No.....



Faculty of Engineering  
End Sem (Even) Examination May-2022  
EN3HS01 History of Science & Technology

Programme: B.Tech.

Branch/Specialisation: All

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. From the following, identify the statement that is true about science. 1
- (a) When a theory has been supported by a great deal of scientific evidence, it becomes law.
- (b) In time, science will be able to solve most of society's problems.
- (c) Scientists rely heavily on imagination to carry out their work.
- (d) All scientific ideas are discovered and tested by controlled experiments.
- ii. The values of science for nature is- 1
- (a) Possibility (b) Reality (c) Interim (d) Uncertainty
- iii. What is Women Scientists Scheme? 1
- (a) It aims to provide Women scientists for pursuing research in engineering only.
- (b) It aims to provide Women Scientists for pursuing research in applied sciences only.
- (c) Both (a) and (b)
- (d) None of these
- iv. Who established the Atomic Energy Commission (AEC) of India in 1984? 1
- (a) P.K. Iyengar (b) M.R. Srinivasan
- (c) Vikram Sarabhai (d) Homi Bhabah

P.T.O.

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v.	The Planning Commission was established in the year-	1
	(a) 1947 (b) 1948 (c) 1950 (d) 1965	
vi.	Planning Commission was scrapped on-	1
	(a) 2012 (b) 2014 (c) 2015 (d) 2017	
vii.	The angle between the observer's meridian and declination circle of the heavenly body is referred to as:	1
	(a) Azimuth (b) Declination	
	(c) Sidereal angle (d) Hour angle	
viii.	Which kind of therapy was given in 1990 to a four year old girl with Adenosine Deaminase (ADA) deficiency?	1
	(a) Chemotherapy (b) Gene therapy	
	(c) Immunotherapy (d) Radiation therapy	
ix.	Which of the following is not true for forecasting?	1
	(a) Forecasts are rarely perfect	
	(b) The underlying casual system will remain same in the future	
	(c) Forecast for group of items is accurate than individual item	
	(d) Short range forecasts are less accurate than long range forecasts	
x.	Innovation can help to provide a temporary competitive advantage when:	1
	(a) Barriers to entry are high.	
	(b) Barriers to imitation are low and intellectual property rights are difficult to enforce.	
	(c) There are few other competitors.	
	(d) Barriers to entry are low.	
Q.2	i. Explain the law of nature. Also discuss its types in brief.	2
	ii. What is the aim of 'National Council of Education Research and Training?	3
	iii. What do scientists mean when they use the word 'Theory' in their books and papers?	5
OR	iv. How faith and science are related to each other? Also explain the role of faith in science with diagram.	5
Q.3	i. Explain how you have used research methods in prior roles.	2

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	ii.	Why research is connected with development? Also classified the research and development.	8
OR	iii.	Explain in detail what are the essential clauses for any cooperation MoU/ Agreement.	8
Q.4	i.	What is the difference between science and technology?	3
	ii.	What were the main features of the Indian economy around the time of Independence?	7
OR	iii.	What are the special programmes of Government to fight poverty and unemployment in India?	7
Q.5	i.	What is biotechnology? Explain its applications in human health and agriculture.	4
	ii.	Discuss the state of agriculture and Industry in Indian economy on the eve of independence.	6
OR	iii.	Describe the new agriculture strategy with their types. Evaluate technological and institutional Reforms for agriculture in India.	6
Q.6		Attempt any two:	
	i.	Explain green revolution.	5
	ii.	What is the role of technology forecasting in innovation?	5
	iii.	Explain the types of communications in detail.	5

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**Marking Scheme**  
**EN3HS01 History of Science & Technology**

Q.1	i.	From the following, identify the statement that is true about science.	<b>1</b>
		(c) Scientists rely heavily on imagination to carry out their work.	
	ii.	The values of science for nature is-	<b>1</b>
		(b) Reality	
	iii.	What is Women Scientists Scheme-	<b>1</b>
		(c) Both (a) and (b)	
	iv.	Who established the Atomic Energy Commission (AEC) of India in 1984?	<b>1</b>
		(d) Homi Bhabah	
	v.	The Planning Commission was established in the year-	<b>1</b>
		(c) 1950	
Q.2	vi.	Planning Commission was scrapped on-	<b>1</b>
		(b) 2014	
	vii.	The angle between the observer's meridian and declination circle of the heavenly body is referred to as:	<b>1</b>
		(d) Hour angle	
	viii.	Which kind of therapy was given in 1990 to a four year old girl with Adenosine Deaminase (ADA) deficiency?	<b>1</b>
		(b) Gene therapy	
	ix.	Which of the following is not true for forecasting?	<b>1</b>
		(d) Short range forecasts are less accurate than long range forecasts	
	x.	Innovation can help to provide a temporary competitive advantage when:	<b>1</b>
		(b) Barriers to imitation are low and intellectual property rights are difficult to enforce.	
Q.2	i.	Law of nature	<b>2</b>
		Its types	
	ii.	Aim of 'National Council of Education Research and Training	<b>3</b>
	iii.	Meaning of Theory' in their books	<b>5</b>
		Meaning of Theory' in their papers	
OR	iv.	Relation of Faith and science	<b>5</b>

		Example	2.5 mark	
Q.3	i.	Any two research methods in prior roles		<b>2</b>
	ii.	Research connection with development	4 marks	<b>8</b>
OR		Classification the research and development	4 marks	
	iii.	MoU definition	2 marks	<b>8</b>
		Agreement definition	2 marks	
		Essential clauses	4 marks	
Q.4	i.	Three differences between science and technology		<b>3</b>
		1 mark for each point	(1 mark * 3)	
OR	ii.	Any five-point related to Indian economy		<b>7</b>
		As per the explanation		
	iii.	Any five programmes of Government to fight poverty and unemployment in India		<b>7</b>
		As per the explanation		
Q.5	i.	Definition of biotechnology	2 marks	<b>4</b>
		Applications in human health	1 mark	
OR		Applications in agriculture	1 mark	
	ii.	Condition of agriculture	3 marks	<b>6</b>
		Condition of Industry	3 marks	
Q.6	iii.	Agriculture strategy with their types	3 marks	<b>6</b>
		Technological and institutional Reforms	3 marks	
		Attempt any two:		
	i.	Explanation green revolution		<b>5</b>
	ii.	Five points for role of technology forecasting in innovation		<b>5</b>
		1 mark for each point	(1 mark * 5)	
	iii.	Types of communications		<b>5</b>
		As per the explanation		

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