

**GACR**  
**PG, 3<sup>rd</sup> SEMESTER END EXAMINATION-2018**  
**(SCIENCE)**  
Sub.- Zoology  
PAPER : P-301

Time: 4 Hours

Full Marks:60

*The figure in the right hand margin indicate marks.*

*Question No.1 is compulsory, answer any FOUR from the rest.*

**GROUP - A**

[2 x6

1. Answer any SIX of the following :-
- i) What do you mean by entropy in an ecosystem?
  - ii) How does a grazing food chain differ from a detritus food chain?
  - iii) What is the edge effect ?
  - iv) Mention the characteristics of a *r*-selected species.
  - v) Name the density dependent factors of population regulation.
  - vi) What is green house effect ? Which gases are to be blamed for it?
  - vii) What is parasitism ? Whether it is +Ve interaction or -Ve interaction?
  - viii) What is PAN? How is it formed and what is its impact?

## GROUP - B

**Answer any FOUR questions.**

[12x 4

2. State the laws of thermodynamics and discuss the process of energy flow in a terrestrial ecosystem.
3. Describe the important steps of biogeochemical cycling of nitrogen.
4. What is succession ? What are its causes? Describe the general phases involved in it. Add a note on factors influencing it.
5. Discuss the general characteristics of an ecological community.
6. Write short notes on :
  - a) Ecotone
  - b) Ozone depletion
7. What are pollutants ? Classify them and mention their source. Highlight the problem posed by the soil pollutants with respect to plant productivity.
8. Give an account of population interaction.



**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(ARTS)**

SUBJECT : ODIA  
PAPER : 301

Full Marks : 80  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

‘କ’ ବିଭାଗ (ବାଧ୍ୟତାମୂଳକ)

(୨x୮=୧୬)

୧. ଯେକୌଣସି ଆଠଟି ପ୍ରଶ୍ନର ଉତ୍ତର ଲେଖ :

- (କ) ଭାଷାର ପ୍ରାମାଣିକ ରୂପ
- (ଖ) ପାଣ୍ଡିକ ବ୍ୟଞ୍ଜନ ଧ୍ୱନି ଓ ସ୍ୱର୍ଣ୍ଣ ବ୍ୟଞ୍ଜନ ଧ୍ୱନି
- (ଗ) ଅର୍ଥ ପରିବର୍ତ୍ତନ ଓ ଭାବାବେଗ
- (ଘ) ଭାଷାର ସଂଜ୍ଞା
- (ଙ) ଉପଭାଷା
- (ଚ) ବୌଦ୍ଧଗାନ ଦୋହା
- (ଛ) ପ୍ରଶାସନିକ ଇଂରାଜୀ ଶବ୍ଦ
- (ଜ) ବ୍ୟଞ୍ଜନ ଧ୍ୱନି
- (ଝ) ସ୍ୱର ଧ୍ୱନି
- (ଞ) ଦେଶଜ ଶବ୍ଦ

‘ଖ’ ବିଭାଗ

ଯେ କୌଣସି ଝରୋଟି ପ୍ରଶ୍ନର ଉତ୍ତର ଦିଅ ।

(୧୬)

୨. ଭାଷା ସୃଷ୍ଟି ସମ୍ପର୍କୀୟ ବିଭିନ୍ନ ମତବାଦ ଗୁଡ଼ିକ ଉପରେ ଆଲୋଚନା କର ।

କିମ୍ବା

( 2 )

ଭାଷା କାହାକୁ କୁହାଯାଏ ? ତାର ପ୍ରକୃତି ସଂପର୍କରେ ଆଲୋଚନା କର ।

୩. ଓଡ଼ିଆ ଭାଷାର ଉତ୍ପତ୍ତି ସଂପର୍କରେ ଆଲୋଚନା କରି ପଞ୍ଚଦଶ ଶତାବ୍ଦୀ ପର୍ଯ୍ୟନ୍ତ ଏହାର ବିକାଶ ସଂପର୍କରେ ସମ୍ୟକ୍ ସୂଚନା ଦିଅ । (୧୭)

କିମ୍ବା

ପଞ୍ଚଦଶ ଶତାବ୍ଦୀ ପର୍ଯ୍ୟନ୍ତ ଓଡ଼ିଆ ଭାଷାର କ୍ରମବିକାଶ ସମ୍ପର୍କରେ ଆଲୋଚନା କର ।

୪. ଓଡ଼ିଆ ଶବ୍ଦ ଭଣ୍ଡାର ଉପରେ ଏକ ବିବରଣୀ ପ୍ରଦାନ କର । (୧୭)

କିମ୍ବା

ଭାରତୀୟ ଆର୍ଯ୍ୟ ଭାଷା ସମୂହର ବର୍ଗୀକରଣ କର ।

୫. ବାଗ୍‌ଯନ୍ତ୍ର କ'ଣ ? ଧ୍ୱନୀ ପ୍ରକରଣରେ ଏହାର ଭୂମିକା ନିରୂପଣ କର । (୧୭)

କିମ୍ବା

ବାଗ୍‌ଯନ୍ତ୍ରରେ ସ୍ୱରଧ୍ୱନୀର ଉତ୍ପନ୍ନ ପ୍ରକ୍ରିୟା ସମ୍ପର୍କରେ ଆଲୋଚନା କର ।



No of Pages : 2

**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(ARTS)**

SUBJECT : ENGLISH  
PAPER : 301

Full Marks : 80  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**Group - A (Compulsory)**

1. Answer any Eight of the following Questions : (2x8=16)
- (i) In "The Iliad" what are 4 results of Achilles' Pride?
  - (ii) How is Odysseus transformed into a hero?
  - (iii) What is Don Quixote's armor made of?
  - (iv) Which parts of Don Quixote do you find humorous but meaningful?
  - (v) What is Creon's reason for not wanting to be king?
  - (vi) Does the play "Oedipux Rex" end in total gloom?
  - (vii) What is Aristotle's main argument in his "Poetics"?
  - (viii) View your ideas on 'Unity of action' as defined in Aristotle's "Poetics".
  - (ix) What two things must a man bring into harmony according to plato?
  - (x) What can rhythm and harmony do for the mind when properly absorbed?

**Group - B**

Answer any **FOUR** of the following questions : (4x16 = 64)

2. What epic elements do you find in Homer's "Iliad"?  
Discuss.

P.T.O.

( 2 )

3. What attitude does the novel “Don Quixote” take towards social class? How is Social class a factor in relationship between characters? Discuss.
4. Comment on the Character of Oedipus as a tragic hero.
5. What is the structure of tragedy in Oedipus Rex?
6. How does Aristotle employ ‘imitation’ as an aesthetic term? Explain.
7. What are the Salient features of Aristotle’s “The Poetics”.
8. What sort of dramatic roles will the guardians be permitted to play according to Plato?
9. Why would Socrates censor the passage in the Iliad that refers to a soul “bemoaning his fate leaving manhood and the bloom of youth” said by Plato? Discuss.



**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(ARTS)**

SUBJECT : EDUCATION  
PAPER : 301

Full Marks : 60  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*  
*Question No.1 is Compulsory. Answer any FOUR from the rest.*

**Group - A**

1. Answer any SIX of the following question in two sentences : (2x6)
- (a) Two consequences of population growth.
  - (b) Characteristics of adolescence.
  - (c) Meaning of continuing and life-long education.
  - (d) SSA
  - (e) LPG
  - (f) Liberalization
  - (g) Two purposes of technical and vocational Education.
  - (h) Importance of Women Education.

**Group - B**

**Answer any Four Questions of the following :**

2. What is population education? Discuss the importance of population education in present Indian context. (12)

( 2 )

3. What do you mean by women education? Discuss the importance of women education for 21st Century India. (12)
4. What is Globalization? Discuss the impact of liberalization, privatization and globalization. (LPG) on Indian Education. (12)
5. Discuss the provisions made in Right of children to free and compulsory Education for quality improvement of elementary education. (12)
6. What is continuing and life long education? Discuss its importance. (15)
7. What is Inclusive Education? Discuss the efforts of SSA to address the needs of CWSN. (15)

-x-x-x-



No of Pages : 2

**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(ARTS)**

SUBJECT : ECONOMICS  
PAPER : 301

Full Marks : 80  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**Group - A (Compulsory)**

1. Answer any EIGHT very briefly : (2x8=16)
- (a) What is econometrics?
  - (b) Define chisquare test.
  - (c) What is hypothesis testing?
  - (d) Give the meaning of estimation.
  - (e) What is regression model?
  - (f) Explain forecasting.
  - (g) Give the meaning of Independent variable.
  - (h) What do you mean by degrees of freedom?
  - (i) Define multi collinearity.
  - (j) Explain Census.

**Group - B**

- Answer any **FOUR**. (4x16)
2. Elaborate the nature and scope of econometrics.
  3. (a) Describe the importance of normal distributor.

P.T.O.

( 2 )

- (b) Using a method of ordinate fit a normal curve of the following data

X	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	12	28	40	60	32	20	8

4. Draw two regression lines for the data  
(a) Given below using the method of least square

X	5	10	15	20	25
Y	20	40	30	60	50

- (b) Explain the Properties of Estimators.

5. Define auto correlation? Describe its sources and consequences.
6. Using both type of model fit the multiple linear regression equation of  $X_1$ ,  $X_2$  and  $X_3$  to the following data.

Weight	X1	10	8	6	4	2
Height	X2	11	9	7	5	3
Age	X3	12	10	8	6	4

7. Define an estimate and describe the good properties of an estimate. Distinguish between estimator and estimate.
8. Write short notes on  
(a) Heteroscedasticity.  
(b) Type - 1 & Type - 2 Errors.



**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(ARTS)**  
**POLITICAL SCIENCE (P - 301)**

Time : 4 Hours

Full Marks : 80

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**Group - A** (Compulsory)

1. Answer any **EIGHT** of the following : (8x2)

- a) What is Managerial view of public administration?
- b) How the Challenges of globalisation affect public administration today?
- c) What is the essence of scientific management theory?
- d) Define bureaucratic approach to public administration.
- e) What is Prismatic diffraction theory?
- f) Why comparative public administration is significant today?
- g) How Gandhi conceptualised development administration?
- h) Mention the key features of development administration.
- i) Why delegated legislation is necessary?
- j) How public policies are implemented?

(2)

**Group - B**

2. What is new Public administration? Explain the causes behind the emergence of new public administration. (16)
3. Explain the role of decision making in administrative process of the management of an organisation. What are the stages and models of rational decision making. (16)
4. Explain the important models of society, Its key features and limitations according to Fred Riggs. (16)
5. How Marx conceptualise development administration? Does it carry any significance in the contemporary times. (16)
6. Public policy is about “Govt. action to address public issues”, Notably then making of public policy is not just about govt., Public officials and bodies but involves a range of non-officials, groups or private actors who play an active role - Examine. (16)
7. Delegated legislation results in effective administration. Explain. (16)
8. What is administrative adjudication. Examine its necessity and importance in public administration. (16)



**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(ARTS)**

SUBJECT : SOCIOLOGY  
PAPER : 301

Full Marks : 80  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*  
*Question No.1 is Compulsory.*

**Group - A**

1. Answer any EIGHT of the following :

(2x8)

- (i) What is Neo-Functionalism?
- (ii) Mention major contributions of Jeffrey Alexander.
- (iii) Briefly explain the contribution of Levi Strauss to structuralism.
- (iv) Discuss G.H. Mead's contribution to the study of self.
- (v) Highlight the Parson's theory of functionalism.
- (vi) Examine the ethno-methodological approach of Harold Garfinkel.
- (vii) What is symbolic interaction theory all about?
- (viii) Discuss the problems that needs to be addressed in neo-functionalism.
- (ix) Highlight the major assumptions of phenomenology.
- (x) Highlight Goffman's contributions to Symbolic Interaction perspective. (12)
- (xi) Mention the contribution of Robert K. Merton to the functional theory. (12)

P.T.O.

( 2 )

- (xii) Explain briefly the contribution of Garfinkel to Ethnomethodology.
- (xiii) Mention the major contributions of Habermas.
- (xiv) Highlight Althusser's contributions to Neo-Marxism.

**Group - B**

**Answer any FOUR Questions of the following :**

- 2. Discuss the major premises of Functionalism. What are (16x04) the major criticisms of functional theory?
- 3. Compare and contrast the works of Radcliffe-Brown and Malinowski in relation to the functional theory.
- 4. What are the major postulates of Phenomenology? Discuss the contribution of Peter Berger and T. Luckmann.
- 5. Do you think phenomenological propositions of Schutz are tenable in real life? Give explanations.
- 6. Discuss the major premises of phenomenology. Examine Peter Berger's views on phenomenology.
- 7. What is Neo-Marxist School of thought? Discuss the contribution of Gramsci to Neo-Marxism.
- 8. Elaborate the contribution of Frankfurt School to Neo-Marxism.
- 9. Mention the applicability of ethnomethodology in Sociological Study.

**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(COMMERCE)**  
**MBFS (MCO - 301)**

Time : 3 Hours

Full Marks : 80

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**Group - A** (Compulsory)

1. Answer only Eight Questions : (each carry 2 marks) (2x8)
- a) What do you mean by financial system?
  - b) Mention two names of financial instrument.
  - c) Who is the regulator of stock market?
  - d) Give the name of two most popular Stock Exchange in India.
  - e) Who are the merchant bankers?
  - f) What is Post-issue management?
  - g) Write down two Credit rating agency in India.
  - h) Give the meaning of growth mutual fund.
  - i) What is operating lease?
  - j) Who is a factor?

**Group - B**

Answer Any **FOUR** (each carry 16 marks)

2. Discuss the role of Financial system in the Economic development of a country. (16)
3. Show the Classification of Indian financial markets in the form of a Chart and explain its feature. (16)

P.T.O.

(2)

4. Explain the functions and powers of stock exchange. (16)
5. Define merchant Banking. Discuss the functions of merchant Banking. (16)
6. a. Discuss any two schemes that can be offered by a mutual fund. (8)  
b. What is a Credit Card? Explain various types of credit card. (8)
7. a. Differentiate between leasing and hire purchase. (8)  
b. Distinguish between factoring and forfeiting. (8)
8. Short Note on :
  - a. Depository Services (8)
  - b. Bill Discounting (8)





**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(SCIENCE)**

SUBJECT : BOTANY  
PAPER : 301

Full Marks : 60  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**Group - A**

1. Write short notes on any SIX : (2x6)
- (a) Pyramid of Biomass
  - (b) Food Web in forest ecosystem
  - (c) Threat to Biodiversity
  - (d) Ecotone
  - (e) r and K selected species
  - (f) Biotic potential
  - (g) Ozone depletion
  - (h) Water pollutants.

**Group - B**

- (Answer any FOUR of the following.) (12)
2. Illustrate functional aspect of an ecosystem. (6x2)
3. Write short notes on :
- a) Phosphorus Cycle.
  - b) Ecological Pyramids.

( 2 )

4. What is Community succession? Explain the succession using a model and show the significance of ecological succession. (12)
5. Write short notes on (6x2)
  - a) Climax Concept
  - b) Dominance & Diversity
6. Define pollution. Give an account of environmental pollutants. (12)
7. Write short note on : (6x2)
  - a) Green house effect
  - b) Soil Pollution
8. What is biotic potential? Relate it with natality, mortality of a species in natural condition. (12)

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**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(SCIENCE)**

SUBJECT : CHEMISTRY  
PAPER : 301

Full Marks : 60  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**SECTION - A** (Compulsory)

(2x6)

1. Answer any **SIX** Questions :
  - (i)  $\text{Ni}(\text{CO})_4$  is tetrahedral while  $[\text{Ni}(\text{CN})_4]^{2-}$  is planar. Explain.
  - (ii) How is  $[\text{Fe}(\text{CO})_2(\text{NO})_2]$  prepared from  $\text{Fe}(\text{CO})_5$ ?
  - (iii) Why do successive  $K_i$  values decrease?
  - (iv) What are metallocarboranes?
  - (v) Explain the microcyclic effect.
  - (vi) What is meant by K-exchange?
  - (vii) Explain : Metal halide clusters.
  - (viii) What are Anation reactions? Give example.

**SECTION - B**

Answer any **FOUR** Questions :

2. (a) Discuss the theory of bonding in metal carbonyls. (6)  
(b) Write a note on Metalloboranes. (6)
3. (a) What is stepwise formation constant? Derive a relationship between stepwise formation constant and overall formation constant. (6)

- (b) How can you determine Binary formation constant by pH-metry? (6)
4. (a) Write down a brief note on chelate effect and its thermodynamic origin. (6)
- (b) What are the factors affecting the stability of metal complexes with reference to metal ion and ligand? (6)
5. (a) Explain the difference between labile and inert complexes. (4)
- (b) Give an example of acid hydrolysis of a complex. Discuss its kinetics. State the factors that influence acid hydrolysis. (2+4+2)
6. (a) What is conjugate base mechanism? Discuss direct or indirect evidences in favour of it. (6)
- (b) What is base hydrolysis? What are the factors influencing the base hydrolysis reaction. (6)
7. (a) Discuss the mechanism of substitution reactions in square planar complexes. (8)
- (b) Explain the trans effect with example. (4)
8. (a) Discuss electron transfer reaction which occur through inner sphere type reaction. (6)
- (b) Write notes on Marues-Hush Theory. (6)



**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(SCIENCE)**

SUBJECT : PHYSICS  
PAPER : 301

Full Marks : 60  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**Group - A (Compulsory)**

1. Answer any SIX Questions : (2x6=12)
- (a) Distinguish between X-ray spectra and optical spectra.
  - (b) What is Auger effect?
  - (c) What are the shortcomings of Bohr-Sommerfeld Theory?
  - (d) Explain Lamb shift. What is its importance in spectroscopy.
  - (e) Why spectra of hydrogen is different from spectra of sodium atom.
  - (f) Distinguish between weak-field stark effect and strong field stark effect.
  - (g) What are the different types of molecular spectra?
  - (h) Distinguish between Einstein A and B Coeffeciants.

**Group - B**

Answer any FOUR questions:

2. (a) State and explain moseley's Law. Show how it has been used in removing some of the defects in periodic table. (8)

( 2 )

- (b) Estimate the value of the wavelength of  $K_{\alpha}$  line of silver ( $Z=47$ ). Given  $R = 109737 \text{ cm}^{-1}$ . (4)
3. (a) What are the regular and irregular doublets in X-ray spectra? Discuss the light they throw on atomic structure. (8)
- (b) Discuss fine structure in X-ray emission spectra qualitatively. (4)
4. (a) Find the value of one Bohr magneton and derive an expression for the Larmor Precessional frequency. (8)
- (b) Distinguish between L-S coupling & J - J coupling. (4)
5. (a) Discuss how the spin Orbit interaction when combined with the relativity correction explain the hydrogen fine structure. (8)
- (b) Calculate the spin-orbit interaction splitting of a level corresponding to  $n=2$  and  $l = 1$  of hydrogen atom. (4)
6. (a) Describe the general features of spectra of alkali-like atoms. How are they explained. What is fine structure of Alkali-spectra. (8)
- (b) Calculate the Zeeman Pattern arising from the transition  $D_3^3 - P_2^3$  (4)
7. (a) How will you account hyperfine structure of spectral lines. How it is related to nuclear spin. (8)
- (b) The molecules have rotational & vibrational states but atoms do not. Justify in brief. (4)
8. Discuss the following: (4x3=12)
- (a) Raman spectra
- (b) Population inversion
- (c) Spontaneous and stimulated emission.

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No of Pages : 3

**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(ARTS)**

SUBJECT : PSYCHOLOGY  
PAPER : 301

Full Marks : 60  
Time : 4 Hours

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*  
*Question No.1 is Compulsory & Answer Other Four.*  
**Group - A**

1. Attempt any SIX :

(2x8=16)

- (a) Nominal Scale,
- (b) Positive correlation,
- (c) Type - I errors,
- (d) Any one assumption of ANOVA,
- (e) What is probability?
- (f) Continuous variable,
- (g) Linear correlation,
- (h) Statistical inferences.

**Group - B**

**Answer any Four :**

2. What is statistics? Discuss the nature and scope of statistics.

(16)

(2)

3. Find out the product moment co-efficient of correlation for the following set of data.

Individual	1	2	3	4	5	6	7	8	9	10
Variable X	50	60	55	65	75	70	75	80	90	80
Variable Y	60	60	55	60	75	80	80	80	85	85

4. Define correlation. State the uses and assumptions of co-rrrelation.

5. Two groups in two schools were given the Minnesota paper Form Board test with the following results :

Gr - A	Gr - B
$\bar{X}_1 = 32.0$	$\bar{X}_2 = 36.0$
$S_1 = 6.2$	$S_2 = 7.4$
$N_1 = 145$	$N_2 = 82$

Is there a significant difference between the two means?

6. What is Chi-square test? Discuss the characteristics and application of Chi-square test.

7. 5 Subjects are asked to rate after taking three brands of Cola, namely - Coca-cola, Thumbs up, and Sprite on a 7-point scale. The response so obtained are presented below. Can it be concluded that all the three brands of Cola are equally good in taste? Apply Friedman ANOVA to test your hypothesis at 5% level of significance.

(16)

(16)

(16)

(16)

(16)

(3)

Rating Scores for three different brands

Subject	Coca cola	Thumbs up	Sprite
1	5	3	6
2	5	5	7
3	6	2	5
4	4	3	6
5	3	4	6

8. What is Normal probability Curve (NPC)? Explain different characteristics of Normal probability curve.





**GACR**  
**PG 3<sup>rd</sup> SEMESTER EXAMINATION - 2018**  
**(SCIENCE)**  
**(MCS - 301)**

Time : 4 Hours

Full Marks : 80

*Answer all Questions as per the instruction*  
*The figure in the right hand margin indicate marks*

**Section - A** (Compulsory)

1. Answer any Eight of the following questions :

(2x8)

- (a) List the criteria to measure the performance of different search strategies.
- (b) Define All and state its features.
- (c) What are the applications of knowledge?
- (d) Define backward chaining with backtracking.
- (e) Differentiate supervised and unsupervised learning.
- (f) How reinforcement learning technique works in neural network?
- (g) What is NLP?
- (h) Give an example of a sentence tree.
- (i) What is fuzzy logic?
- (j) What do you mean by defuzzification?

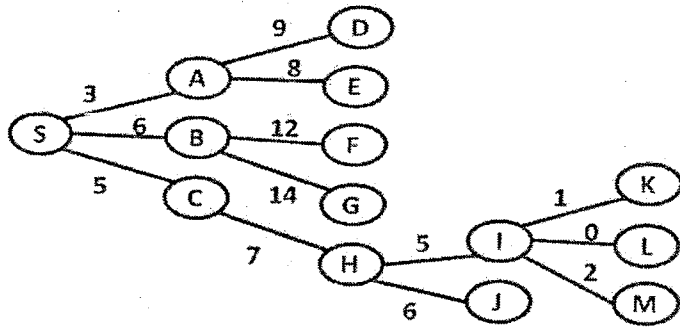
**Section - B**

2. a. What is Alpha-Beta search? Explain in detail.
- b. Write the technique and algorithm used for Best First Search. Write the search process in tabular format for the following graph, where

(8)

(2)

'S' is the start node and 'L' is the Goal node.



3. a. Describe the components of First Order Logic. State its properties. Illustrate how it extends to propositional logic. (8)
- b. What is the idea behind semantic net? Explain with its block diagram. (8)
4. a. Describe neural network architecture. Discuss about its three classes using digraphs. (8)
- b. Describe Mcculloch-pitts mode in detail. Support your answer with graphical representation. (8)
5. a. What are the component steps of communication? Explain with an example. (8)
- b. Describe lexical, syntactic and semantic ambiguity. What do you mean by disambiguation? (8)
6. a. Describe fuzzy set, operations done on fuzzy sets and properties of fuzzy sets. (8)
- b. Define membership function. State the important points related to it. Discuss about its features. (8)

(3)

7. a. Who is an intelligent agent? Describe the four basic agent programs briefly with schematic diagram wherever necessary. (8)
- b. Describe Forward Chaining with its properties and efficiency. Give suitable example. (8)
8. Write short notes on (Any FOUR) : (4x4)
  - a. A\* algorithm
  - b. Script
  - c. Euclidian distance
  - d. Min-max Search
  - e. Quantifier

