## GACR
# +3, 1st SEMESTER END EXAMINATION-2018 (ARTS)

## Sub.- History
### PAPER : GE- I

Time: 3 Hours                                    Full Marks:80

*The figure in the right hand margin indicate marks.*
*Question No.1 is compulsory, answer any FOUR from the rest.*

# Section- 'A'                               [ 2x8]

1.      Answer any EIGHT questions.

a)   When Ashok attacked on Kalinga and which rock edict give original prove about Kalinga war?

b)   Which year of his reign  Kharavela had destroyed Tamil confederation?

c)   Who constructed the Bimala Temple and Mahalaxmi Temple  inside premises of Lord Jagannath temple?

d)   Who had built the Mukteswar Temple and where it is situated?

e)   What was time of Chodagangadev and why he was famous.

f)   Who was the founder of  Surya vansh in Odisha? Which famous book he had written?

h)   Who was the famous king of Ganga Dynasty and wha was his contribution for architecture.

i) When the slavery system was introduced in Odisha and what was the food and dress in Odia's during that time?

k) Who was the president of Indian National Congress when civil disobedience started. When Gandhi started Dandi March?

l) When Hunter commission came to India and who was the Vice-Roy of India that time.

m) When and where Radhanath Ray was born?

# Section - 'B'

[ 4x16

**Answer any FOUR questions.**

2. Describe the achievement of Mahamegha Vahan Kharavela.

3. Narrate the career and achievement of Kapilendradev.

4. Write a note on Jainism in Odisha

5. Make an estimate of Maratha administration in Odisha.

6. Give an account of the early British administration and its impact in Odisha.

7. Describe the role of Arya Samaj and its movement in Odisha before independence.

8. Describe the contribution Radhanath Roy towards modern Odisha in nineteenth century.

**GACR**

# +3, 1ˢᵗ SEMESTER EXAMINATION-2018 (COMMERCE)

**Sub: Micro Economics**  Full Marks: 80

**Paper: GE-I**  Time: 3 Hours

*Answer the questions as per instruction.*
*The figure in the right hand margin indicate marks.*
*Question No.1 is compulsory.*
*Answer any FOUR questions remaining seven questions.*

## 1. Answer any EIGHT out of ten. [2x8]

(i) Distinguish betwen demand schedule and demand curve.

(ii) Mention any two application of market equilibirium.

(iii) What are the two variable, factors of production in the short run?

(iv) Give two examples of economies of scale, from your day today life.

(v) In monopoly market equilibirium what is the relationship between MC & MR?

(vi) Mention any two types of imperfect competition.

(vii) What are the two types of oligopoly market?

(viii) OPEC is an example of which form of market? Justify.

(ix) What is MRTP Act, renamed as?

(x) Give two examples of complementery goods.

2. Why does demand curve slop downward? Explain with diagrams. [16]

3. How relevant is law of variable proportion in business world? Give example. [16]

(P.T.O...)

4. What is 'planning curve'? Explain Why it is called so. [16]

5 Monopolistic competitive market is a combination of monopoly and perfect competition. Justify the statement. [16]

6. Write short notes on: [8x2]

(a) Income Effect

(b) Substitution effect

7. What are the four properties of ISO-QUANT? Explain with diagram. [16]

8. Reliance Jio is alleged to adopt predatory pricing strategy in its initial stage. Under Competition Bill 2002, predatory pricing strategy is restricted in India. Ironically, currently Jio is rulling Indian Telecom industry. Do you believe that predatory piecing policy, should be allowed by GOI? Justify. [16]

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**GACR**

# +3, 1st SEMESTER EXAMINATION-2018 (SCIENCE)

**Sub: CHEMISTRY**                                    Full Marks: 60

**Paper: GE-I**                                           Time: 3 Hours

*Answer the questions as per instruction.*
*The figure in the right hand margin indicate marks.*

### GROUP - A (Compulsory)                    [2x6]

### 1. Answer any SIX questions.

(a) Write the electronic configuration of copper.

(b) Draw the resonating structures of $CO_3^{2-}$.

(c) Differentiate between bonding and anti bonding molecular orbital.

(d) Explain why aniline is less basic than methyl amine.

(e) Which of the following alknes does not react with ammoniacal silver nitrate solution?

acetylene, but-1-yne, but-2-yne, propyne

(f) Predict the major product of the following reaction

$CH_3 - CH_2 - CH (Br) - CH_3$ $\xrightarrow{KOH(aLc)}$

(g) The number of radial nodes for 3s orbital is _____ & for 2p orbital is _____.

(h) Define lattice energy

### GROUP - B

### Answer any FOUR questions

2. (a) State and derive de-Broglie equation          [2+4]

   (b) Electrons in an atom are in motion & not stationery. Explain.                                                [2]

   (c) Why exactly half filled & fully filled configurations are stable configurations?          [4]

(P.T.O...)

3. (a) Explain the terms polarising power and polarizability. [2+6]
   Write in brief the factors affecting polarisation

   (b) In $CO_2$ molecule individual bond is polar but the molecule [2]
   15 non polar. Explain.

   (c) NaCl is more soluble than MgO in water. Give reasons. [2]

4. Explain the structures of the followings with the help of [12]
   USEPR theory & hybridisation

   $SF_6$, $ClF_3$, $SO_4^2$, $NH_3$.

5. (a) How hexane-2, 5- dione will be prepared from ethyl [3]
   acetoacetate?

   (b) How acetone will be synthesized by using methyl [3]
   magnesium bromide?

   (c) Show that cyclopropenyl cation is aromatic [2]

   (d) What are carbocations? Discuss about its geometry. [2+2]

6. Write notes on the followings. [4x3]

   (a) Ozonolysis of 2-methyl but-2-ene.
   (b) Acidic nature of alkynes
   (c) Hydration of acetylelne.

7. Write notes on [3x4]

   (a) Chlorination of methene

   (b) Kolbe's synthesis of alkane.

   (c) Peroxide effect

   (d) Dehydration method for preparation of alkene.

8. (a) Write a note on hyper conjugation. How it explains [3+3]
   directive influence of alkyl group.

   (b) Which of the following is the strongest acid and why? [2]
   Acetic acid, Chloro acetic acid, Dichloro acetic acid,
   Trichloro acetic acid.

   (c) Give examples (one each) of neutral nucleophile, negative [4]
   nucleophile, neutral electrophile, positive electrophile

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**GACR**
# +3, 1st SEMESTER END EXAMINATION-2018 (ARTS)
### Sub.- HINDI
### PAPER : GE - I

Time: 3 Hours                                    Full Marks:80

*The figure in the right hand margin indicate marks.*
*Question No.1 is compulsory, answer any FOUR from the rest.*

## विभाग - क

1.  निम्नलिखित प्रश्नों मे से किन्ही **आठ** प्रश्नों के अति संक्षिप्त   [ 2x8]
    उत्तर दीजिए।

    क)  भक्तिकाल का दूसरा नाम क्या है ?

    ख)  हिन्दी साहित्य में किस काल को स्वर्णयुग कहा जाता है ?

    ग)  निर्गुण प्रेममार्गी काव्यधारा के किसी एक प्रमुख कवि का नाम
        लिखिए।

    घ)  कृष्ण भक्ति  शाखा के महाकवि सुरदास रचित गीतिकाव्य का
        नाम लिखिए।

    ङ)  कबीर दास के गुरु का नाम क्या है ?

    च)  कबीर दास पत्थर की चक्की की पूजा और आदर बात क्यों
        कहते हैं ?

    छ)  महाकाव्य 'पद्मावत' की भाषा क्या है ?

    ज)  सुरदास की भक्ति किस भाव की है ?

    झ)  'भ्रमरगीत' में गोपियों को निर्गुण का उपदेश कौन देते है ?

    ञ)  'भरत महिमा' कविता के  आधार पर बताएँ कि भरत के दर्शन
        से वनवासिओं की क्या प्रतिक्रिया हुई ?

[P.T.O.]

# विभाग – ख

[16x 4

2. निम्नलिखित प्रश्नों मे से किन्ही **चार** प्रश्नों के उत्तर दीजिए।

क) भक्तिकाल का सामान्य परिचय देकर इसकी सामाजिक एवं राजनैतिक पृष्ठभूमि पर रोशनी डालिए।

ख) निर्गुण प्रेममार्गी शाखा का परिचय प्रदान कीजिए।

ग) पठित कबीर की साखियों के आधार पर ईश्वर के अस्तित्व एवं कबीर के जीवनोपदेशों को लिखिए।

घ) सुरदास के 'भ्रमरगीत' की विशेषताओं को अपने शब्दों में लिखिए।

ङ) 'भरत महिमा' के आधार पर भरत के राम तक पहुंचने की यात्रा को अपने शब्दों में लिखिए।

च निम्न प्रश्नों के उत्तर दीजिए।

　　i) तुलसी दास पर टिप्पणी लिखिए।

　　ii) चढा असाढ गगन घन साजा।

　　　 सांजा बिरह दुंद दल बाजा।

　　　इस पंक्ति की सप्रसंग व्याख्या कीजिए।

छ) सगुण काव्यधारा के रामभक्ति शाखा की विशेषताओं को लिखिए।

# GACR
# +3 1st SEMESTER EXAMINATION - 2018
## (ARTS)
### SOCIOLOGY (GE - I)

Time : 3 Hours                                    Full Marks : 80

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

### GROUP - A

1. Answer any Eight of the following :                    (2x8)

   a)  Name the branch which links Sociology with Anthropology.
   b)  Mention any two elements of Society.
   c)  What is a pure Science?
   d)  Give any two distinctions between folkways and mores.
   e)  What is out-group?
   f)  What do mean by Social processes?
   g)  Describe power.
   h)  Give an example of Informal Social Control.
   i)  What is Race?
   j)  Define Sociology?

### GROUP - B
(Answer any Four of the following)

2.  Describe the scope of Sociology.                      (16x4)

3.  Discuss the Characteristics of Culture.

P.T.O.

4.  Define Socialization and discuss it's various stages.

5.  Examine marxian theory of social stratification.

6.  Describe some agencies of Social Control.

7.  Discuss importance of competition in modern society.

8.  How is sociology related to Economics?

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## GACR
# +3, 1ˢᵗ SEMESTER END EXAMINATION-2018 (ARTS)

### Sub.- **Philosophy**
### PAPER : GE-I

Time: 3 Hours                                    Full Marks:80

*The figure in the right hand margin indicate marks.*
*Question No.1 is compulsory, answer any FOUR from the rest.*

# Group - 'A'                                    [ 2x8]

1.  Answer any EIGHT of the following.

    i)   How is a word distinguished from a noise?

    ii)  What is the difference between a sign and a symbol?

    iii) What is stipulative definition?

    iv)  What is non-verbal definition?

    v)   What is an analytic proposition?

    vi)  Why the opposite of a synthetic proposition is a synthetic proposition?

    vii) What is emotive meaning?

    viii) What is the law of excluded middle?

    ix)  State two characteristics of inductive reasoning.

    x)   Distinguish between a sentence and a proposition.

# Group - 'B'

[ 16x 4]

Answer any FOUR questions.

2. Bring out the different meanings of the word 'meaning'?

3. Distinguish between the defining characteristics and accompanying characteristics.

4. What is a reportive definition?

5. Distinguish between behaviourial theory of meaning from the referential theory of meaning.

6. What are the criteria of sentence meaning? Discuss.

7. Distinguish between.

   i) Analytic proposition and synthetic proposition

   ii) Empirical possibility and technical possibility.

8. Give an exposition of the characteristics of deductive reasoning.

# GACR
# +3 1ˢᵗ SEMESTER EXAMINATION - 2018
## (ARTS)
### POLITICAL SCIENCE (GE - I)

Time : 3 Hours                                   Full Marks : 80

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

### SECTION - A

1. Answer any Eight of the following :                    (2x8)
   a)   First wave of fenimism.
   b)   Global feminism.
   c)   Two features of liberal feminism.
   d)   Two features of radical feminism.
   e)   Seneca falls covention.
   f)   Federation Cuban Women.
   g)   Sati regulation Act of 1829.
   h)   Patriarchal family.
   i)   Unpaid work of women.
   j)   Productive Labour.

### SECTION - B
#### Answer any Four                                16 x 4

2.   Discuss various features of feminism.
                    OR
Analyse the first and second wave of feminism.

3.   Critically analyse socialist feminism.
                    OR
Discuss radical feminism.

                                                  P.T.O.

4.      Analyse various waves of feminism in USA.

OR

Write an essay on evolution of feminism in Cuba.

5.      Discuss the role of women in the British period in India.

OR

Analyse the role of women in the Indian freedom struggle.

6.      Discuss various features of matriarchal family in India.

OR

Critically analyse various functions of Joint family.

7.      What is problems of women in work? How these problems can be solved.

OR

Analyse Gender based divisin of labour in India.

8.      Discuss various productive and unproductive labour.

OR

Difference between underpaid and paid work.

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# GACR
# +3, 1st SEMESTER END EXAMINATION-2018 (ARTS)
## Sub.- ODIA
## PAPER : GE- I

Time : 3 Hours                                    Full Marks : 80

ପ୍ରଥମ ପ୍ରଶ୍ନ ବାଧ୍ୟତାମୂଳକ ସହିତ ଅନ୍ୟ ଯେକୌଣସି ଚାରିଗୋଟି ପ୍ରଶ୍ନର ଉତ୍ତର ଦିଅ

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

୧.        (ଯେ କୌଣସି ୮ଟି ପ୍ରଶ୍ନର ଉତ୍ତର ଦିଅ)              (୨×୮)

   (କ)   ମନ୍ତ୍ୟ ପ୍ରବନ୍ଧ କାହାକୁ କହନ୍ତି ?

   (ଖ)   ବିଭାବନା ଅଳଙ୍କାର କାହାକୁ କହନ୍ତି ?

   (ଗ)   ଗଦ୍ୟ ପ୍ରବନ୍ଧ ଓ ରମ୍ୟରଚନା କାହାକୁ କୁହାଯାଏ ?

   (ଘ)   ଓଡ଼ିଆ ଭ୍ରମଣ ସାହିତ୍ୟ

   (ଙ)   ଦୁଇଟି ସହରୀ ଜୀବନ ଭିତ୍ତିକ ଉପନ୍ୟାସର ନାମ ଲେଖ ।

   (ଚ)   କେଉଁ ଯୁଗର କବିଙ୍କ କବିତାରେ ସାମ୍ୟବାଦର ବାଣୀ ଶୁଣିବାକୁ ମିଳେ ?

   (ଛ)   କରୁଣ ରସସିକ୍ତ ୨ଗୋଟି ଓଡ଼ିଆ କ୍ଷୁଦ୍ରଗଳ୍ପର ନାମ ଲେଖ ।

   (ଜ)   ଦୁଇଗୋଟି ମିଥ୍ ଧର୍ମୀ କବିତାର ନାମ ଲେଖ ।

   (ଝ)   ପ୍ରବନ୍ଧର ଆଭିମୁଖ୍ୟ କିପରି ହେବା ଉଚିତ୍ ?

   (ଞ)   ଓଡ଼ିଆରେ ବ୍ୟବହୃତ ହେଉଥିବା କ୍ରିୟାପଦ ଗୁଡ଼ିକର ପରିଚୟ ପ୍ରଦାନ କର ।

            (ଯେକୌଣସି ୪ଟି ପ୍ରଶ୍ନର ଉତ୍ତର ଦିଅ)              (୧୬ ×୪

୨.   ଭାଷା ଓ ବ୍ୟାକରଣ ଶିକ୍ଷାଦାନର ଉଦ୍ଦେଶ୍ୟ ଓ ଆବଶ୍ୟକତା ସମ୍ପର୍କରେ ଆଲୋଚନା କର ।

୩.   ଜୀବନର ସାର୍ଥକ ପ୍ରତିଫଳନ ଓ ଆନନ୍ଦ ଦାନ ହେଉଛି କବିତାର ଅନ୍ୟତମ ଉଦ୍ଦେଶ୍ୟ, ବିଚ୍ୟର କର ।

୪.   ଆତ୍ମଚେତନା ପରିପ୍ରକାଶରେ ଗଦ୍ୟପାଠ ଓ ଶିକ୍ଷାଦାନର ଭୂମିକା  ସମ୍ପର୍କରେ ଆଲୋଚନା କର ।

                                                      ପୃଷ୍ଠା ଓଲଟାଅ.

୫.  କଥା ସାହିତ୍ୟ ଅଧ୍ୟୟନ ପାଠକକୁ କେବଳ ଆନନ୍ଦ ଦାନ କରିନଥାଏ, ଏହା
    ମଧ୍ୟ ନୀତିଶିକ୍ଷା ପ୍ରଦାନରେ ସମର୍ଥ । ବିଚାର କର ।

୬.  ସାହିତ୍ୟ ପାଠର ଆବଶ୍ୟକତା ଓ ଏହାର ବିବିଧତା ମନୁଷ୍ୟକୁ କିପରି ଅମୃତ
    ସନ୍ଧାନୀ କରିପାରିଛି ଆଲୋଚନା କର ।

୭.  ରସ ଓ ଅଳଙ୍କାରର ପ୍ରୟୋଗ କାବ୍ୟ କବିତାକୁ କିପରି ହୃଦୟଗ୍ରାହୀ କରି
    ଗଢ଼ି ତୋଳିବାରେ ସହାୟକ ହୋଇଥାଏ ? ବିଚାର କର ।

୮.  ଗଳ୍ପ ଉପନ୍ୟାସରେ ସମାଜ ସଚେତନାର ବାର୍ତ୍ତା ସମ୍ବନ୍ଧରେ ନିବନ୍ଧଟିଏ ପ୍ରସ୍ତୁତ
    କର ।

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**GACR**

# +3, 1ˢᵗ SEMESTER EXAMINATION-2018 (SCIENCE)

Sub: ZOOLOGY

Paper: GE-I

Full Marks: 60

Time: 3 Hours

*Answer the questions as per instruction.*
*The figure in the right hand margin indicate marks.*
*Give suitable labelled diagrams wherever necessary.*

## GROUP-A

[2x6]

1. Answer any SIX of the following.

   (i) What is vitamin?

   (ii) Define health.

   (iii) What do you mean by hypertension?

   (iv) What is the role of vitamin E and K in our body?

   (v) Name the micro-organisms that cause diarrhoea.

   (vi) Which metal ions are present in drum stick?

   (vii) What do you mean by micronutrient? Give two examples of it.

   (viii) Which type of food yield energy?

## GROUP-B

### Answer any FOUR of the following.

[12x4]

2. Give an account of vitamin dificiency disorders of man.

3. Give an account of the nutrient requirements and dietary patterns of pregnant and nursing mothers.

4. Discuss the cause, spread and prevention of AIDS.

5. Give an account of the important social halth problems.

(P.T.O...)

6. Discuss on various water-borne diseases.

7. Write notes on any TWO of the following

   (a) Causes of food spoilage
   (b) Essential aminoacids
   (c) Co-enzymes

8. Write notes on any TWO of the following

   (a) Methods of water purification
   (b) Macronutrients
   (c) Protein malnutrition

*- x - x - x -*

**GACR**

# +3, 1ˢᵗ SEMESTER EXAMINATION-2018 (SCIENCE)

**Sub: BOTANY**                                                   Full Marks: 60

**Paper: GE-I**                                                   Time: 3 Hours

*Answer the questions as per instruction.*
*The figure in the right hand margin indicate marks.*

## GROUP - A

1. **Write short notes on any SIX of the following.**          [2x6]

    (a) Guttation

    (b) Hydroponics

    (c) Chlorophylls

    (d) Compensation point

    (e) Feed back inhibition

    (f) Girdling experiment

    (g) Vernalization

    (h) Apical dominance

## GROUP-B
### Answer any FOUR questions.

2.  Describe the mechanism of mineral absorption in plants.          [12]

3.  Give an illustrated account of the path of Carbon in photosynthesis.          [12]

4.  Explain the glycolytic breakdown of glucose into pyruvic acid during respiration. Add a note on its energetics.          [12]

(P.T.O...)

5. Explain the process of biological nitrogen fixation in Leguminous plant. [12]

6. Describe the role of florigen in stimulating flowering in different types of photoperiod sensitive plants. [12]

7. What is water potential? Describe its various components. [12]

8. Write notes on: [6x2]

(a) Facilitated diffusion

(b) Oxidative phosphorylation

- *x* - *x* - *x* -

## GACR

# +3, 1ˢᵗ SEMESTER EXAMINATION-2018 (SCIENCE)

**Sub: STATISTICS**                                    Full Marks: 60

**Paper: GE-I**                                    Time: 3 Hours

*Answer the questions as per instruction.*
*The figure in the right hand margin indicate marks.*

## GROUP - A

1. (a) What do you mean capption and stub?

   (b) What are the esentials of classification of data?                    [2x6]

   (c) Give general rules of tabulation.

   (d) The standard deviationof 50 observations is 6.5. Find the standard deviation if every observation is inccreased by 5.

   (e) If $2u = x$, and Harmonic mean of $x$ is 4. Find the harmonic mean of $u$.

   (f) If correlation coefficient is 0.7. What is the value of coefficient of non determination.

   (g) Explain properties of probable error.

   (h) Explain the uses of regression analysis.

## GROUP-B
### Answer any FOUR of the following.

2. (a) Discuss the comparative merits of various methods of collecting primary data.                    [6+6]

   (b) Discuss the various sources of collecting secondary data.

3. (a) The arithematic mean of two observations is 127.5 and their geometric mean is 60. Find their harmonic mean and also obtain observations.                    [6+6]

(P.T.O...)

(b) Average of two numbers is 20 and their standard deviation is 5. Find the two numbers.

4. (a) Prove that for any discrete distribution standard deviation is not less than mean deviation from mean. [6+6]

(b) Show that for discrete distribution $\beta_2 > 1$.

5. (a) What is skewness? Define its type. What are relative and absolute measures. [6+6]

(b) For a moderately skewed distribution, A.M=160, mode=157, and standard deviation=50. Find C.V., median and pearsonian coefficient of skewness.

6. (a) Prove that correlation coefficient lies between -1 to +1. [6+6]

(b) If $\sum x = 132$, $\sum y = 96$, $\sum x^2 = 3274$, $\sum y^2 = 1632$, $\sum (x+y)^2 = 9314$, $n = 6$, Find the value of '$\gamma$'

7. (a) Out of two regression equations given below which one is the regression equation of x on y and y on x.
$2x + 4y = 10$, $4x + 6y = 8$ [6+6]

(b) Explain properties of regression equation.

8. (a) Rank correlation between x and y is 0.5 and no. of pair is 10. It was then detected that the difference in ranks in two pairs was wrongly taken to be 3 in place of 7. What should be the correct rank correlation coefficient. [6+6]

(b) Can $y = 5+2.8x$ and $x = 3-0.5y$ be the estimated regression equations of Y on X and X on Y respectively. Explain your answer with suitable theoretical argument.

*- x - x - x -*

**GACR**

# +3, 1st SEMESTER EXAMINATION-2018 (SCIENCE)

**Sub: COMPUTER SCIENCE**　　　　　　　Full Marks: 60

**Paper: GE-I**　　　　　　　　　　　　　Time: 3 Hours

*Answer the questions as per instruction.*

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

*Section-A is compulsory. Answer any four from Section-B*

## SECTION-A

[2x6]

**1. Answer any SIX questions.**

(a) Define Escape Sequence.

(b) How 'switch' statement works?

(c) Describe 'for' statement with syntax and example.

(d) What is recursion?

(e) Define pointer and state its importance.

(f) What is function prototype?

(g) State the advantage of structure over array.

(h) Discuss about increment and decrement operators.

## SECTION-B

2. (a) Briefly describe the structure of a 'C' program.　　[6]

(b) Write 'C' program to reverse a given no.　　[6]

3. (a) Describe GOTO, BREAK, CONTINUE statements with syntax and example.　　[6]

(b) Define array. Write a program to find the highest number from 10 given nos using array.　　[6]

(P.T.O...)

4. (a) Define structure. Write a program to demonstrate array of structure. [6]

   (b) Differentiate UDF types basing on parameter and return type with syntax and example. [6]

5. (a) What do you mean by pointer arithmetic? Support your answer with examples for different primitive data types. [6]

   (b) Write a program using pointer to count the characters of a given string. [6]

6. (a) Describe the formatted and non-formatted I/O functions used for file processing. [6]

   (b) Write a program to copy the contents of a text file to another. [6]

7. (a) Write a program to find diagonal sum of a matrix of size 3 x 3. [6]

   (b) Write a program to find the given no is even or odd using recursion. [6]

8. Write short notes on the following (Any THREE) [3x4]

   (a) Binary file vs Text file

   (b) Indirection Operator and Address Operator

   (c) Call-by reference vs. Call-by-value

   (d) String manipulation functions

- *x* - *x* - *x* -

**GACR**

# +3, 1st SEMESTER END EXAMINATION-2018 (ARTS)

Sub.- **Indian Economics**

PAPER : GE- I

Time: 3 Hours                                                    Full Marks:80

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

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

1.  Answer any EIGHT of the following.                    [ 2x8]

    a)  An underdeveloped economy is charatcterised by what?

    b)  What are the parameters of PQLI?

    c)  What are the immediate objectives of the population policy of 2000?

    d)  What are the methods to measure relative poverty?

    e)  What is added to national income while calculating personal income?

    f)   In which stage of demographic transition is the population growth rate highest?

    g)  Which 5 Year plan stated the objective of stabilizing the population growth to be the central feature of planning?

    h)  What is the objective of 12th five year plan?

    i)   What are the areas of focus under Rashtriya Krishi Vikash Yojana?

    j)  Who recommends the MSP and issue prices?

*[P.T.O.]*

Answer any FOUR questions.

2,  a)  What is agriculture productivity? Why is it low in India? Explain the steps taken to solve this problem. [ 10

b)i) What are the main characteristic of Indian economy? [ 3

ii) Give the reason of low national and per capita income in India. [ 3

3.  a)  Explain how rapid growth in population has affected the economic growth in India? Suggest ways to control population. [10

b)  Define the following [ 3

i)  Life expectancy

ii)  Density of population [ 3

4.  a)  Define theory of demographic transition, population explosion and human resources. [10

b)  i)  What is the need of economic development? [ 3

ii)  What is the relationship between economic growth and population? [ 3

5.  a)  Account the factors of associated with interstate variation in income in India. [10

b)i)  Why does the agriculture sector produce only a quarter of the national GDP? [ 3

ii)  Define disguised unemployment with one example. [ 3

6.  a) What are the measure achievements and failure of planning in India? [10

b)  "Antipoverty programme need to be reoriented for assets creation rather than providing employment in rural areas". Comment. [6

7.  a)  India's human developement record continues to be gloomy . Can you suggest measures to improve it? [10

b)  Write short notes on :

i)  Regional in equalities [3

ii)  Declining sex ratio [3

8.  a)  "It is not the population but the poverty and unemployment are the two most chronic problems of the Indian economy". What policy measures would you suggest to solve these problems? [10

b)  Why cannot the economic planning of India be said to be imperative? [6

**GACR**

## +3, 1st SEMESTER END EXAMINATION-2018 (ARTS)

Sub.- **Education**

PAPER : GE - I

Time: 3 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'                    [ 2x6]

1.      Answer any SIX of the following questions.

   i)    Write any two nature of liberty.

   ii)   State any two features of democracy.

   iii)  Write any two aspects of integral education.

   iv)   In which year with what purpose was *Shantiniketan* established?

   v)    State any two objectives of Mid-day-Meal programme.

   vi)   State any two objectives of S.S.A.

   vii)  Write any two features of common school system.

   viii) Write any two fectors responsible for social change.

## Group - 'B'

Answer any FOUR questions given below.                [2+10

2.      What is social justice? Explain the nature and constitutional provisions in relation to social justice.

OR

*[P.T.O.]*

Write short notes on the following :

a) Constitutional provision in respect of secularism.

b) Critically examine the social aims of education.   [6+6

3. What was Tagore's philosophy of life? Bring out his views on practical aspects of education.   [3+9

OR

Discuss the educational philosophy of Jiddu Krishnamurty in respect of aims, curriculum methods of teaching and teacher.   [12

4. What is universalisation of primary education? Discuss the problems in the way of universalisation.   [2+10

OR

Define the term wastage and stagnation. Discuss the causes and remedial measures of wastage and stagnation.   [3+9

5. What is equality of educational opportunity? Explain the remedial measures taken for equalisation of educational opportunities.   [2+10

OR

What is single teacher school? Explain the reasons of functioning single teacher school and bring out its merits and demerits.   [2+10

6. What is economic development? Describe the role of education for economic development.   [3+9

OR

Define social and cultural change. Discuss the role of education as an instrument of social change.   [4+8

**GACR**

## +3, 1ˢᵗ SEMESTER EXAMINATION-2018
## (SCIENCE)

Sub: **MATHEMATICS**                                    Full Marks: 80

Paper: **GE-I**                                          Time: 3 Hours

*Answer the questions as per instruction.*
*The figure in the right hand margin indicate marks.*
*Answer any EIGHT questions from Q. No.1 and*
*any FOUR from the rest.*

**1.** (a) Find the curvature of the curve $x^2 = 2y$                [2x8]

(b) Write down the general equation of cone.

(c) Test the existence of $\displaystyle\lim_{(x,y)\to(0,0)} \frac{2xy}{3x+2y} = ?$

(d) Solve $\dfrac{dy}{dx} = (2x+y)^2$

(e) Find the asymptotes parallel to co-ordinate axes for the curve $x^2y + 2xy^2 - 3x^2 - 4y^2 + 2x - 3y = 0$

(f) Solve $y = px + qy - \dfrac{2pq}{q^2 + p}$

(g) Write down the solution of linear differential equation.

(h) If $f(x,y) = x^2 + xy$ then prove that $x\dfrac{\delta f}{\delta x} + y\dfrac{\delta f}{\delta y} = 2f$.

(i) Find L $(t \sin 2t) = ?$

(j) Find $L^{-1}\left(\dfrac{1}{s(s+2)}\right) = ?$

(P.T.O...)

2. (a) Find the asymptotes to the curve $x^2y = (x+y)^3 - zx^2$ [8]

(b) Find the curvature to the curve $y = e^x$ at $(0,1)$. Also obtain the circle of curvature at this point. [8]

3 (a) Find the equation of cone whose guiding curve is $4x^2 + 9y^2 = 1, z = 3$ and the direction ratio of its generator is $<2, 1, 2>$. [8]

(b) Evaluate $\displaystyle\lim_{(x,y) \to (0,0)} \frac{2x^2 - 3xy + y^2}{3xe^y} = ?$ [8]

4. (a) Find the point of intersection of [8]

$9x^2 - 12y^2 + 15z^2 - 27 = 0$ and the line

$$\frac{x-2}{3} = \frac{y-1}{1} = \frac{z-3}{4}$$

(b) Varify Euler's theorem for the function [8]

$f(x, y, z) = 7xy + 3y^2 - 2zx$

5. (a) Solve the differential equation $\dfrac{dy}{dx} = \dfrac{2x + y - 3}{x - 2y + 1}$ [8]

(b) Solve the differential equation [8]

$y = 2px + yp^2$, where $p = \dfrac{dy}{dx}$

6. (a) Solve the differential equation $(D^2 - 5D + 6)y = e^{3x}$ [8]

(b) Solve the differential equation $(x^2D^2 - 3xD + 4D)y = x^2$ [8]

7. (a) Use Laplace transform to solve [8]

$9y'' - 6y' + y = 0, y(o) = 1, y'(0) = 2$

(b) Find the inverse Laplace transform of [8]

$$\frac{p}{(p^2 + 4)(p + 3)}$$

8. (a) Find the Laplace transform of [8]

(i) $t^2 \cos 3t$      (ii) $e^{3t} \sin^3 2t$

(b) Find the particular integral of [8]

$(D^2 + 4D + 3)y = xe^{3x} + e^x$.

$- x - x - x -$

**GACR**

# +3, 1ˢᵗ SEMESTER EXAMINATION-2018
## (SCIENCE)

Sub: MTC                                    Full Marks: 60

Paper: GE-I                                  Time: 3 Hours

*Answer the questions as per instruction.*

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

*Answer any EIGHT questions from Q. No.1 and*

*any FOUR from the rest.*

1. (a) Define the sample space for tossing of 3 coins once.          [2x6]

   (b) Find the probability of getting a picture card from a pack of cards of two cards drawn at random.

   (c) Define random variable for the no. of heads obtained in 5 tosses of a coin.

   (d) State the distribution function of Poisson's distribution.

   (e) Prove that geometric mean of regression coefficients is equal to correlation coefficient.

   (f) Define Type-II error.

   (g) If coefficient of $\beta_2 = 2$, the curve is _____ kurtic.

   (h) Distinguish between sample mean and population mean.

2. (a) Urn 1 has 2 white and 3 black balls, Urn 2 has 4 white     [6+6]
   1 black balls and Urn 3 contain 3 white and 4 black. An Urn is selected at random and a ball is drawn found to be white. Find the probability that it was selected from Urn1.          [6+6]

   (b) If A and B are independent events then proove that $A^1$ and $B^1$ are independent.

(P.T.O...)

3. (a) Find the mean corresponding to the random variable for the number of heads obtained in 3 tosses of a coin. [6+6]

(b) Prove that $f(x) = \begin{cases} x, & 0 \le x < 1 \\ 2-x, & 1 \le x < 1 \\ 0 & x \ge 1 \end{cases}$ is density function [6+6]

and hence find the mean.

4. (a) Find the moment generating function of Binomial distribution and hence find its mean. [6+6]

(b) Find the mean and variance of poisson's distribution. [6+6]

5. (a) Find the probability of getting at leaest seven heads in 10 tosses of a coin. [6+6]

(b) Derive poisson's distribution from Binomial distributioon. [6+6]

6. (a) Find the regression line x on y for [6+6]

| x | 65 | 63 | 67 | 64 | 68 | 62 | 70 | 66 | 68 | 67 |
|---|----|----|----|----|----|----|----|----|----|----|
| y | 68 | 66 | 68 | 65 | 69 | 66 | 68 | 65 | 71 | 67 |

(b) Find the mean, median and mode for [6+6]

| Mod. value | 5 | 15 | 25 | 35 | 45 | 55 | 65 | 75 |
|------------|---|----|----|----|----|----|----|----|
| Frequency | 10 | 12 | 18 | 20 | 16 | 14 | 10 | 8 |

7. (a) Fit a parabola $y = a + bx + cx^2$ to the data [6+6]

| x | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| y | 1 | 1.8 | 1.3 | 2.5 | 6.3 |

(b) Find the co-rrelation coefficient for [6+6]

| x | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|----|----|----|----|----|----|----|----|
| y | 11 | 13 | 16 | 20 | 27 | 34 | 41 | 43 |

8. Write short notes on (any two) [6+6]

(a) Testing of Hypothesis

(b) Sampling Distribution

(c) Measure of Central Tendency

(d) Skewness & Kurtosis.

- x - x - x -