

If the questions attempted are in excess of the prescribed number...

2/18

(2)

করি, যে ভাষায় ক্রোধ দুঃখ ভালোবাসা ইত্যাদি জানাই, তার চেয়ে উপযুক্ত ভাষা হতে পারেই না; সেই ভাব, সেই ভঙ্গি, সেই সমস্ত ব্যবহার করে যেতে হবে। ও ভাষাকে যদিকে ফেরাও সে দিকে ফেরে, তেমন কোনো তৈরি ভাষা কোনো কালে হবে না। ভাষাকে করতে হবে — যেমন সাফ ইম্পাত মুচড়ে মুচড়ে যাচ্ছে কর — আবার যে কে-সেই, এক চোটে পাথর কেটে দেয়, দাঁত পড়ে না। আমাদের ভাষা — সংস্কৃতর গদাই-লক্ষরি চাল — ঐ এক চাল নকল করে অস্বাভাবিক হয়ে যাচ্ছে। ভাষা হচ্ছে উন্নতির প্রধান উপায় — লক্ষণ।

যে কোনো পাঁচটি প্রশ্নের উত্তর লিখুন :

- (ক) সন্ধি বিচ্ছেদ করুন :
দিবৌষধ, প্রত্যন্তর, অন্বেষণ, মনীষা, দিধিদিক
- (খ) পদ পরিবর্তন করুন :
সৌর, প্রভাত, ঘৃণা, আগ্রহ, বিকাশ
- (গ) অশুদ্ধি সংশোধন করুন :
সপরিবারে, ব্যকরণ, মুমূর্ষু, নীপিড়িত, অপরাহ
- (ঘ) এককথায় প্রকাশ করুন :
সুধা ধবলিত গৃহ, পদ্ম নাভিতে যাহার, পতিপুত্রহীনা নারী, একখানা পাজর কম যার, উপকার করতে ইচ্ছুক।
- (ঙ) ব্যাসবাক্য উল্লেখ করে সমাস নির্ণয় করুন :
মুখচন্দ্র, শূলপানি, যথাসাধ্য, আগাগোড়া, আজকাল
- (চ) প্রায়সমোচ্চারিত ভিন্নার্থক শব্দগুলির অর্থ লিখুন :
আপন-আপণ, নীর-নীড়, বিকৃত-বিক্রীত, মুর্খ-মুখ্য, শিকড়-শীকর

~~কোনো পাঁচটি প্রশ্নের উত্তর লিখুন~~
~~৫x৫=২৫~~
~~দিবৌষধ, প্রত্যন্তর, অন্বেষণ, মনীষা, দিধিদিক~~
~~সৌর, প্রভাত, ঘৃণা, আগ্রহ, বিকাশ~~
~~সপরিবারে, ব্যকরণ, মুমূর্ষু, নীপিড়িত, অপরাহ~~
~~সুধা ধবলিত গৃহ, পদ্ম নাভিতে যাহার, পতিপুত্রহীনা নারী, একখানা পাজর কম যার, উপকার করতে ইচ্ছুক।~~
~~মুখচন্দ্র, শূলপানি, যথাসাধ্য, আগাগোড়া, আজকাল~~
~~আপন-আপণ, নীর-নীড়, বিকৃত-বিক্রীত, মুর্খ-মুখ্য, শিকড়-শীকর~~

মুমূর্ষু মুমূর্ষু - মুমূর্ষু

নীপিড়িত

~~সুধা ধবলিত গৃহ, পদ্ম নাভিতে যাহার, পতিপুত্রহীনা নারী, একখানা পাজর কম যার, উপকার করতে ইচ্ছুক।~~
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~~আপন-আপণ, নীর-নীড়, বিকৃত-বিক্রীত, মুর্খ-মুখ্য, শিকড়-শীকর~~
~~মুখচন্দ্র~~
~~নীপিড়িত~~
~~মুমূর্ষু~~
~~শীকর~~

2018

BENGALI ESSAY, PRÉCIS WRITING & COMPOSITION

Time Allowed—3 Hours

Full Marks—100

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

- ১। যে কোনো একটি বিষয় অবলম্বনে প্রবন্ধ রচনা করুন : 40
- (ক) অরণ্য সংরক্ষণের প্রয়োজনীয়তা
- (খ) রক্তদানের গুরুত্ব
- (গ) বিজ্ঞানমনস্কতা
- (ঘ) বিজ্ঞাপনের সেকাল ও একাল
- ২। যে কোনো একটি অংশের সারমর্ম লিখুন : 35
- (সরবরাহকৃত নির্দিষ্ট কাগজে লিখতে হবে।)
- (ক) তোমার ন্যায়ের দণ্ড প্রত্যেকের করে
অর্পণ করেছ নিজে, প্রত্যেকের 'পরে
দিয়েছ শাসন ভার, হে রাজাধিরাজ
সে গুরু সম্মান তব। সে দুরাহ কাজ
নমিয়া তোমারে যেন শিরোধার্য করি
সবিনয়ে, তব কার্যে যেন নাহি ডরি
কভু কারে। ক্ষমা যেথা ক্ষীণ দুর্বলতা,
হে রুদ্র, নিষ্ঠুর যেন হতে পারি তথা
তোমার আদেশে। যেন রসনায় মম
সত্যবাক্য বালি উঠে খর খড়গ সম
তোমার ইঙ্গিতে। যেন রাখি তব মান
তোমার বিচারাসনে লয়ে নিজ স্থান।
অন্যায় যে করে আর অন্যায় যে সহে
তব ঘৃণা যেন তারে তৃণসম দহে।
- (খ) আমাদের দেশে প্রাচীন কাল থেকে সংস্কৃত্য সমস্ত বিদ্যা থাকার দরুণ বিদ্বান এবং সাধারণের মধ্যে একটা অপার সমুদ্র দাঁড়িয়ে
গেছে। বুদ্ধ থেকে চৈতন্য, রামকৃষ্ণ পর্যন্ত — যারা 'লোকহিতায়' এসেছেন, তাঁরা সকলেই সাধারণ লোকের ভাষায় সাধারণকে
শিক্ষা দিয়েছেন। পাণ্ডিত্য অবশ্য উৎকৃষ্ট; কিন্তু কটমটে ভাষা — যা অতি প্রাকৃতিক, কল্পিত মাত্র, তাতে ছাড়া কি আর পাণ্ডিত্য
হয় না? চলিত ভাষায় কি আর শিল্পনৈপুণ্য হয় না? স্বাভাবিক ভাষা ছেড়ে একটা অস্বাভাবিক ভাষা তয়ের ক'রে কি হবে? যে
ভাষায় ঘরে কথা কও, তাতেই তো সমস্ত পাণ্ডিত্য গবেষণা মনে মনে কর; তবে লেখবার বেলা ও একটা কি কিস্তুতকিমাকার
উপস্থিত কর? যে ভাষায় নিজের মনে দর্শন-বিজ্ঞান চিন্তা কর, দর্শনে বিচার কর — সে ভাষা কি দর্শন-বিজ্ঞান লেখবার ভাষা
নয়? যদি না হয় তো, নিজের মনে এবং পাঁচজনে ও সকল তত্ত্ববিচার কেমন ক'রে কর? স্বাভাবিক যে ভাষায় মনের ভাব প্রকাশ

FORESTRY - PAPER-II

Time Allowed : 3 Hours

Full Marks : 100

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Answers may be given either in English or in Bengali but all answers must be in one and the same language.

Group - A

Answer any three questions.

- 11 (1) Define social forestry with its objectives. Write in brief the scope of social forestry. Explain briefly the components of social forestry and strategies for implementation of social forestry. $4+4+(7+5)$
- 10 (2) What are the concept of joint forest management ? What are the benefits, impacts and constraints of joint forest management ? Write in brief on gender equity and joint forest management. Explain the role of NGB's in joint forest management. $3+(3+3+3)+4+4$
3. Discuss in brief about the importance of multipurpose tree species with respect to (i) Fuel wood, (ii) Fodder, (iii) Live fences, (iv) Wind breaks and shelterbelts, (v) Soil Protection and Rehabilitation. $4+4+4+4+4$
4. Explain briefly the factors affecting the selection of tree species in agroforestry. Write about tree management in agroforestry system with reference to Protection and maintenance practices. $6+(7+7)$
5. What are meant by complementary, supplementary and competitive tree-crop interactions in agroforestry. Write in brief about the factors affecting tree-crop interactions in agroforestry. Mention the positive tree-crop interactions in agroforestry. $(2+2+2)+6+8$
- 11 6. Define urban forestry with objectives. Write the importance and benefits of urban forestry. Discuss the environment of urban forestry and its management. $4+(3+3)+(3+7)$

Group-B

Answer any two questions

7. Define forest and forest classification with objectives. Write the different basis of forest classification and system of forest classification. Discuss in brief the factors influencing forest vegetation and establishment with reference to climatic factors. $2+(2+2)+(6+8)$
- 10 8. What are agrisilvicultural systems ? Discuss briefly about shifting cultivation, taungya system and alley cropping. $2+6+6+6$
9. What is forest utilization ? Write in brief about felling and conversion for forest utilization and transportation by land and water including storage of timber and stacking of wood. $3+(3+3)+(7+4)$
10. Write short notes on any four of the following :-
- (a) Management of bamboo forest ✓
- (b) Management of roadside and avenue plantations ✓
- (c) Silvicultural systems in mangroves
- (d) Conservation measures for watershed management ✓
- (e) Management of fruit trees in agroforestry systems. ✓ 5×4

vii) Combine into one sentence :

The new forest rules have fallen like a thunderbolt from a clear sky. By one stroke of the pen 'the man of the jungles' finds himself at once a proscribed outcast in his own wilds. The hills and jungle that were his home are suddenly proclaimed to be State forests.

viii) Change to indirect speech :

Mohandas K. Gandhi said, "There is a sufficiency in the world for man's need but not for man's greed."

10

5. Correct any five of the following sentences :

- i) I will send you the recommendation tomorrow.
- ii) You should avoid to make such stupid mistakes.
- iii) The recent programme against malnutrition proved very successful. Instead the government decided to discontinue it.
- iv) The gazelle can run faster than the deer; it is the speediest of the two.
- v) The book had seemed bored, but when I began reading it, I found it quite interesting.
- vi) By the time I reached, the class began.
- vii) I will meet them on the station.

10

with those of some private colleges of the city. On Principal James's enquiring of Dr. Ray about its probable cause in view of the recruitment of better class of students to the Presidency College, he replied "because we teach chemistry and not the syllabus of the Calcutta University". He held the view that the practice of regarding the university degrees as a passport for services and a measure of intellectual ability led to an insane craze for degrees among the Indian youths and a mass production of degree-holders by the universities with their consequent unemployment.

30+5

3. Complete any five of the following sentences with appropriate prepositions :

- i) This letter is inform the municipal authorities of the difficulties faced by the local residents.
- ii) I wish to draw the attention the concerned authorities with the help of your newspaper.
- iii) The purpose this study is to determine the negative effects of stress.
- iv) The methods that the employers may use manage the employees' stress is listed below.
- v) About 50% of India's total revenue the forestry industry is in non-wood forest products category.
- vi) The ecological biodiversity of the Sundarbans is facing a threat the poachers.
- vii) In 1952, the government nationalised the forests which had earlier been held the zamindars.
- viii) A 2010 study by the Food and Agriculture Organisation ranks India amongst the 10 countries the largest forest area coverage in the world.

5

4. Rewrite any five of the following sentences according to the instructions given :

- i) Join the sentences into one sentence :
It was raining. He had to leave. Otherwise he would miss the last train.
- ii) Fill in the blank with the correct form of the verb given in brackets :
By the time I reached there, the troublemakers _____ (leave).
- iii) Fill in the blank with the correct answer :
In ancient Japan, the country's inhabitants were _____; and so most of them knew very little about foreign countries.
(partisan/erudite/insular/cosmopolitan)
- iv) Fill in the blank with the correct form of the verb given in brackets :
The phone _____ (ring). Will you answer it ?
- v) Fill in the blank with the correct form of the word given in brackets :
Since 1991, India has reversed the trend of _____ (deforest).
- vi) Combine into one sentence :
The first satellite recorded forest coverage data for India became available in 1987. This was when India and the United States cooperated in 2001. They used Landsat MSS with spatial resolution of 80 metres. They get accurate forest distribution data.

ENVIRONMENTAL SCIENCE – PAPER-II

Time Allowed : 3 Hours

Full Marks : 100

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Answers may be given either in English or in Bengali, but all answers must be in one and the same language.

Answer Question No.1 (Compulsory) and any six from the rest of the questions (Q.No.2 to Q.No.9)

1. Answer the following :-

- (a) Describe world's vegetation zone on the basis of temperature.
- (b) Hydrological cycle.
- (c) Hydrolysis.
- d) Gleization.
- (e) Survivorship curves.
- (f) Ecotone.
- g) Limnology.
- (h) Characteristics of fauna of oriental region.

2x8

2. a) How steepness and exposure of slope affect the vegetation on mountain? Explain with suitable examples.

6+4

b) Describe Soil profile with neat and standard sketch of soil profile.

4

3. a) Give an account of behaviour, along with the effect of DDT, mercury and fluorine in the environment.

8

b) What types of diseases are common in tropical countries? Discuss the role of ecology in diseases.

6

4. a) What are major sources of air pollution in our country? Suggest suitable methods of control.

6

b) Write a short note on :

- i) Greenhouse effect,
- ii) solid waste pollution,
- iii) photochemical smog.

2+3+3

5. a) What are bio-indicators? Discuss with suitable examples, how they may be used in monitoring the state of environment?

2+6

b) What is environmental impact assessment? Discuss its importance in relation with developmental plans of the country.

2+4

ENVIRONMENTAL SCIENCE – PAPER-I

Time Allowed : 3 Hours

Full Marks : 100

Answers may be given either in English or in Bengali but all answers must be in one and the same language.

Answer all questions

1. (a) What is ecology? 2
- (b) Explain autecology and synecology. 3
- (c) Write short note on heliophytes and windbreaks. 3
- (d) Describe briefly the factors that affect soil formation. 2
2. (a) What is symbiosis? 1
- (b) What is ecological niche. 2
- (c) Write short note on (i) biological clocks X
(ii) reproductive capacity 2+2
- (d) What primary productivity? 3
3. (a) Describe the floristic region of India. 3
- (b) Describe different types of natural resources. 3
- (c) Write about Chipko movement and agroforestry 2
- (d) Define conservation 2
4. (a) What is biosphere reserve? 2
- (b) Give an account of non- conventional energy source. 3
- (c) What are the demerits of conventional sources of energy? 3
- (d) Write short note on global warming 2
5. Explain the following:
 - (a) Acid rain
 - (b) Greenhouse effect
 - (c) Pollution by solid wastes
 - (d) Ozone depletion
 - (e) Biodiversity 2x5
6. (a) Define ecotoxicology? 2
- (b) Mention any three major sources of water pollution 3
- (c) What is bio-indicators? 2
- (d) Eutrophication 2
- (e) Write the full form of SPM 1
7. (a) Discuss the objectives of environmental education with reference to India. 3
- (b) Discuss the role of "Man and Biosphere Programme" in environmental management in India. 3
- (c) Full form of 'CITIES' and 'CAZRI' X 2
- (d) Write short note on 'Jhum Cultivation' 2
8. (a) Give a schematic diagram of the sulphur cycle. X 3
- (b) Short note on biogeochemical cycle. 2
- (c) What is aquifer? 2
- (d) Briefly state the significance of nitrogen cycle. 3

6. a) What is Sustainable Development ? What are environmental ethics ? 3+3
- b) What is desertification ? What are the reasons for ozone layer depletion and describe prevention measure of ozone depletion ? 2+6
7. a) How to prevent and control water pollution ? 8
- b) Briefly describe 'The Environment (Protection) Act, 1986'. 6
8. a) Describe salient features of the provision of 'the Motor Vehicles Act, 1988'. 8
- b) Write a note on Ganga action plan. 6
9. a) Describe the source of radiation exposure. 8
- b) Briefly describe the biological effects of radiations. 6
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FORESTRY - PAPER-I

Time Allowed : 3 Hours

Full Marks : 100

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Answers may be given either in English or in Bengali but all answers must be in one and the same language.

Group - AAnswer any three questions.

1. Define agroforestry and features of agroforestry system. V. What are the needs and benefits of agroforestry? Write down various limitations of agroforestry with its management options for better outcome. 4+8+8
2. What do you mean by watershed management? Discuss principles and objectives of watershed management. Write about contribution of trees towards improvement of soil-water regime and biological measures for watershed management. 2+3+2+5+8
3. What is agroecological zones in agroforestry. Explain briefly the management practices of agroforestry in agroecological zone with reference to (i) arid and semiarid tropics (ii) agroforestry for hill lands. 3+(9+8)
4. What do you mean by multipurpose trees for agroforestry? Discuss in brief the benefits of multipurpose trees in agroforestry. Indicate appropriate multipurpose tree species with their characteristics for agroforestry. Explain briefly the role of MPTS in agroforestry with reference to (i) alley cropping (ii) Home garden. 2+7+3+(4+4)
5. Discuss briefly about the beneficial effects and adverse effects of trees on soil in agroforestry system. 14+6
6. What are the benefits of Silvi Pastoral System? Write in brief about aquaforestry and sericulture in agroforestry system. Give the functional and socio-economic classification of agroforestry system. 4+4+(6+6)

Group - BAnswer any two questions

7. What are global warming and climate change. Write in brief the effects of climate change. Briefly discuss the role of agroforestry in adapting and mitigating climate change. 2+8+(5+5)
8. Write in brief on (i) Biological nitrogen fixation in agroforestry system. (ii) agroforestry for problem soils. (iii) effect of agroforestry in soil erosion. 7+7+6
9. Define forest mensuration with its objectives and scope. The degree of accuracy required depends upon the various factors: illustrate. Write about the measurement of individual trees with respect to diameter measurement and standard rules for breast height measurement with mention the reasons for the adoption of breast height. 2+3+3+5+7
10. Write the principles followed for choosing agricultural crops to be grown with commercial trees in agroforestry. On the basis of tree growth and management the development of an agroforestry system is divided into different stages : Explain briefly. 8+12

9. (a) What is food web? 2
(b) What is ecological succession? 2
(c) What is biological oxygen demand? 2
(d) What is the effect of light on distribution of plants. 3
(e) Write full form of MAB 1
10. (a) What is energy flow? Give a schematic diagram of it 1+2
(b) Briefly describe desert ecosystem. 3
(c) Write a note on ecological pyramid. 3
(d) Who proposed the term 'ecosystem'? 1
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GENERAL STUDIES

Time Allowed : 3 Hours

Full Marks : 100

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Answers may be written either in English or in Bengali but all answers must be in one and the same language.

(All questions carry equal marks)

GROUP-A

: Answer any five Questions :

1. Where is the Keoladeo national park located and why is it famous for ?
2. Discuss the major objectives behind the Chipko movement.
3. How far did the Green Revolution change the face of Indian agriculture ? Discuss its merits and demerits.
4. What happened during the "Jallianwala Bagh massacre" in 1919 in India ? What were its consequences ?
5. What is a "black hole" in the theory of general relativity ? Discuss Stephen Hawking's contributions in this context ?
6. Discuss "poverty line" and its measurement in India.
7. In which state has the dance form "Mohiniattam" evolved and how has it become a part of Indian culture ?
8. What is the main cause of acid rain ? What are its effects ?
9. Which ideals are mentioned in the Preamble to the Constitution of India? Is preamble amendable ?
10. Briefly recount the contributions of Swami Vivekananda in the context of their relevance to present-day India.

GROUP-B

: Answer any five Questions :

11. When and where was the recent South Asia Regional Youth Peace Conference held and what was its objectives ?
12. Discuss the role of National Skill Development Corporation. Who is currently the Chairman of the Corporation ?
13. Who was honoured with Tata Literature Lifetime Achievement Award, 2017 on 19th November, 2017 and for contributions in which field ?
14. Which State imposed a 7-month ban on fishing on 1st November, 2017 and why ?
15. Who was posthumously honoured with prestigious Dadasaheb Phalke award, 2017 and why ?
16. Which Indian originate has been selected as the Chief Economist of International Monetary Fund ? What is the role of International Monetary Fund ?
17. What are the objectives of the Kanyasree Scheme taken up by West Bengal Government ? Discuss the achievements of this scheme.
18. Discuss the Chief features of the Government of India-United Nations 'Sustainable Development Framework', 2018-2022 signed on September, 28th, 2018.
19. Discuss the rights enshrined in Article 14 of the Constitution of India.
20. Examine Rabindranath Tagore's ideas on Nationalism.

ENGLISH ESSAY, PRECIS WRITING & COMPOSITION

Time Allowed : 3 Hours

Full Marks : 100

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

Five
Answer all three Questions.

1. Write an essay on the following topics :
 - a) The benefits and dangers of using the internet.
 - b) The role of an individual in fighting the threat to biodiversity in the world. *I, that is, how affected, here of Ind. Gov. in another*
 - c) The advantages and disadvantages of the use of English language in India.
 - d) Proper utilisation of India's forests.

2. Write a precis of the following passage and add a suitable title :

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In 1888 Prafulla Chandra returned to India, but not with any bright prospect for his future. Arriving at Calcutta and being anxious to get an appointment in the Bengal Educational Department he called on Alfred Croft, the then Director of Public Instructions, Bengal, and on Alexander Pedler, the then Professor of Chemistry, Presidency College, Calcutta. He also sought an interview with the Lieutenant Governor of Bengal for the purpose. Financial worries too added to his troubles at the time, his family estate being heavily encumbered owing to his father's debts. During this period he was mostly under the hospitable roof of his friends, Dr. and Mrs. Jagadis Chandra Bose. At last he was offered an appointment as temporary Assistant Professor of Chemistry at the Presidency College, Calcutta, on a salary of Rs. 250/- only per month. He took up his duties at the College in July, 1889. In a short time he acquired a great reputation as a successful and popular teacher. His lectures were made interesting and attractive, not only by demonstration with numerous experiments, but also by interspersion with inspiring anecdotes from the lives of the great masters and pioneers of science, which he would narrate almost dramatically with a view to making a bridge between the minds of his pupils and those of the masters of modern chemistry, like Priestley, Scheele, Lavoisier, Cavendish, Dalton, Berzelius, Liebig, Wohler and others. The stories of their struggles and ultimate victory were meant to convey to the impressionable young minds the need for devotion and hard work in the pursuit of science. He also took good care to make his lectures flavoured with apt citations from his favourite authors like Shakespeare, Emerson, Michael, and Rabindranath. Furthermore, he would not forget to weave into his lectures even matters relating to social and political regeneration of the country. He had an aversion to prescribing text-books or syllabuses, and would often humorously advise the students to make a bonfire of their so-called text-books, notes, compendiums, digests, etc., with which the market was flooded to provide for easy means for passing the examination. He was very critical of university degrees, which under the system of training and examination in vogue, could in his opinion seldom furnish a proper standard for assessing the power of initiative and original thinking acquired by the students. In this connection reference may be made to an interesting incident. At one time when H. R. James was the Principal of the Presidency College, the I.Sc. and the B.Sc. results in chemistry of the college for a few successive years suffered somewhat by comparison