



DELHI PUBLIC SCHOOL, BHILAI

Date : 16.09.2019
Class - XII

FIRST-TERM EXAMINATION, 2019
SUBJECT – BUSINESS STUDIES

Time : 3 Hrs.
M.M. 80

GENERAL INSTRUCTIONS :

- The Question Paper is divided into five sections : A, B, C, D & E respectively.
 - Section A** : consists of Question no. 1 to 20 of 1 mark each.
 - Section B** : consists of Question No. 21 to 25 of 3 marks each.
 - Section C** : consists of Question No. 26 to 28 of 4 marks each.
 - Section D** : consists of Question No. 29 to 31 of 5 marks each.
 - Section E** : consists of Question No. 32 to 34 of 6 marks each.
- Attempt all parts of a question together.

SECTION : A

- Q.01** At which level of management the managers are responsible for the Welfare and Survival of the Organisation. (01)
(a) Middle Level (b) Top Level (c) Supervisory Level (d) Fourth Level
- Q.02** Sohan started his business of processed food items. Being the Sole Proprietor of business, he used to take all the decisions. When the business of Sohan expanded, he continued with the old practice of controlling all by himself. It led to delay in all important decisions. Identify the management principle violated by Sohan in the given case. (01)
- Q.03** Demonetisation is viewed as a tax administration measure. True or False. (01)
- Q.04** Choice of advertising media is concerned with (01)
(a) Procedure (b) Strategy (c) Policy (d) Budget
- Q.05** Name the concept which helps a manager to extend his area of operations as without it, his activities would be restricted to only what he himself can do. (01)
- Q.06** Why is selection considered a negative process? (01)
- Q.07** Vaibhav & Keshav are friends working in Supreme Ltd. as Production Manager and Sales Manager respectively. In an interdepartmental meeting Vaibhav informed Keshav about a change in the Marketing Policy of the company. Identify the type of communication used in the above para. (01)
- Q.08** The 'focus point' for a Manager while controlling should be , as controlling at each and every step is not possible. (01)
- Q.09** Success of dabbawalas of Mumbai is an example of aspect of Management. (01)
(a) Delegation (b) Decentralisation (c) Coordination (d) Supervision
- Q.10** Gang Plank permits vertical communication. True or False. (01)
- Q.11** Booking of railway tickets through internet from home or office is an example of (01)
(a) Technological Environment (b) Political Environment
(c) Social Environment (d) Economic Environment
- Q.12** The Delhi Government put restrictions on selling fast food in School canteens. Identify the type of plan. (01)
- Q.13** The employees of Nuclear Pvt. Ltd., a software company have formed a Dramatics Group for their recreation. Name the type of organisation so formed. (01)
- Q.14** Differentiate between workload Analysis and workforce Analysis. (01)
- Q.15** Sadaf is the CEO of a reputed company. She introduced appropriate skill development programmes and a sound promotion policy for the employees of her company. To motivate and retain the best talent in the company, she designed the jobs of the managers to include greater variety of the work content. Identify the two incentives introduced by Sadaf to motivate the employees of her company. (01)
- Q.16** Which principle of Management control is based on the belief that an attempt to control everything results in controlling nothing. (01)
- Q.17** Three Subordinates A, B and C receive orders from Z. In such a situation which principle of management is being observed. (01)
(a) Unity of Direction (b) Equity (c) Discipline (d) Unity of Command

Contd...2

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- Q.18** A Company allows only ten leaves for its employees during one year. Which type of plan is it? (01)
Q.19 There is no scope of fresh talent in source of recruitment. (01)
Q.20 To satisfy social, esteem and psychological needs which incentive is required? (01)

SECTION : B

- Q.21** Evergreen Ltd. set up a project to extract oils from the seeds of fruits of trees which grow naturally in a forest. These oils have industrial use. The company set up its factory near the forest which is inhabited by disadvantaged people. It recruited local workers and trained them. The company inculcated the motto of efficiency among them. The company decided to pay substantial bonus to its employees every year.

Identify the objectives of management which the company pursued and explain them briefly.

(1½x2=03)

- Q.22** A recent rate cut in the interest on loans announced by the banks encouraged Amit, a Science Student of Progressive School to take a loan from SBI to experiment and develop cars to be powered by fuel produced from garbage. He developed such a car and exhibited it in the Science Fair organised by Directorate of Education. He was awarded first prize for his invention.

Identify explain the dimensions of business environment discussed in the above case.

(03)

OR

Philips a company manufacturing light bulbs incurred heavy expenditure on Scientific Research & Development and discovered a technology that made it possible to produce an energy efficient light bulb that lasts atleast twenty times as long as a standard bulb. It resulted in growth and profitability of the company.

- (a) Identify and explain the dimension of business environment mentioned above. (2+1=03)
(b) State the point of importance of business environment mentioned above by quoting the lines.
- Q.23** Differentiate between delegation and decentralisation on the basis of : (1x3=03)
(a) Nature (b) Scope (c) Purpose
- Q.24** After passing his Secondary School Examination David left the school at the age of 15 years and started getting training under his father. His father, a renowned electrician, had worked for many companies. He everyday started accompanying his father on work and watched him carefully while working. David was a good learner and learnt the techniques of work quickly. Now his father started passing on the tricks of the trade to David. With the passage of time David acquired a high level skill and became a well-known electrician at Bhopal.
(a) Name and explain the method of training discussed in the above para. (2+1=03)
(b) State any one benefit which David could get on being trained.
- Q.25** Steelo Ltd. is engaged in manufacturing machine components. The target production is 250 units per day per worker. The company had been successfully attaining this target until two months ago. Over the last two months it has been observed that daily the last two months it has been observed that daily production varies between 200-210 units per worker.
(a) Name the function of management and identify the step in the process of this function.
(b) To complete the process of the function identified in (a) and to ensure the performance as per set targets, explain what further steps a manager has to take. (2+1=03)

SECTION : C

- Q.26** Explain briefly any four features of management.

OR

Explain briefly any four functions of Middle Level Management.

(04)

- Q.27** 'Care For You Ltd.' is a famous services providing company. Mr. Ankit Bhatia is its Managing Director. He continuously motivates his R & D department that new and latest methods of doing work must be explored. The provisions has also been made to give reward to those employees who will participate in a particular exploration. He also believes that two groups working on managerial and non-managerial posts are similar to two wheels of an organisational vehicle. If this vehicle (organisation) is to be driven in a right way then both the wheels should be properly aligned. Mr. Bhatia is a successful leader. Among his employees, he has instilled the feeling that no decision will be taken without consulting the subordinates. To excel among the other companies in this field is the main motive of Mr. Bhatia. Paying attention to training is the secret of the company.

Identify the four principles of Scientific management highlighted in the above para by quoting the lines.

(04)

- Q.28** What do you mean by leadership? Explain the different styles of leadership (with diagram). (04)

Contd...3

SECTION : D

- Q.29** Rajat joined as CEO of Bharat Ltd., a firm manufacturing Computer Hardware. On the first day he addressed the employees. He said that he believed that a good company should have an employee suggestion system and he wished to minimise employee turnover to maintain organisational efficiency. He informed all employees that he would ensure that all agreements were clear, fair and there was judicious application of Penalties. However, he said that he believed that lazy personnel should be dealt with sternly to send the message that everyone was equal in the eyes of management. Also that he would want to promote a team spirit of unity and harmony among employees. He told all present that the interests of the organisation should take priority over the interest of any one individual employee.

Identify and briefly explain any five principles of management given by Fayol, which Rajat highlighted in his address to his employees. (05)

- Q.30** A reputed car manufacturing company in NCR is facing the problem of decline in its market share due to its internal mismanagement. Therefore, it has planned to increase its production capacity at its Gurgaon Plant by manufacturing low-priced eco-friendly cars for price sensitive consumers and introducing new models with added features for quality conscious customers. For this the company issues shares to the public and raises ₹ 150 Crore. The company purchases more machinery required to increase production.

- (a) Identify and explain the type of plan the company is preparing. (2+3=05)
(b) State the steps involved in this plan quoting the lines from the above case.

OR

Identify the type of plans in the following statements. (1x5=05)

- (a) Girls will be given a 5% cut off rebate for admission in the college.
(b) Library will issue at one time only 4 books for 15 days.
(c) Any employee found logging to any social networking site in the office will be punished.
(d) Coca Cola reduces prices of its products in response of price cut by Pepsi.
(e) A discount of 10% will be offered to all the customers buying goods worth ₹ 20,000 or more.

- Q.31** Write about the importance of decentralisation.

OR

(05)

Explain briefly the features of Informal Organisation Structure.

SECTION : E

- Q.32** Aman and Aditya have decided to start a business of manufacturing toys. They identified the following main activities :

- (a) Purchase of raw material (b) Purchase of machinery
(c) Arrangement of finance (d) Manufacturing of toys
(e) Sale of toys (f) Appointment of managers & selection of employees

- (a) Identify the function of management involved here.
(b) Quote the lines which helped you to identify the function.
(c) State the steps followed in the process of this function of management. (1+1+4=06)

- Q.33** Explain briefly the steps of staffing. (06)

OR

Explain the following :

- (a) Vestibule Training (b) Internship Training
(b) Casual Callers (d) Induction Training (1½ X4=06)

- Q.34** What do you mean by directing function of management? Explain the need. Hierarchy Theory of Maslow (with diagram) (1+5=06)

OR

Write in brief the meaning of communication. What are the different types of communication? Explain briefly the different barriers to communication. (1+1+4=06)



DELHI PUBLIC SCHOOL, BHILAI (C.G.)

Time: 3 hrs.

FIRST TERM EXAMINATION, 2019

16.09.19

Class: XII

CHEMISTRY


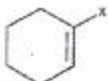
M.M.:70

General Instructions:

- All questions all compulsory.
- Question paper consists of four sections, Section-A has 1 mark questions, Section-B has 2 marks questions, Section-C has 3 marks questions and Section-D has 5 marks questions.
- There is no overall choice however internal choice is given in 2, 3 and 5 marks questions.

SECTION-A

- Arrange the following polymers in the increasing order of their intermolecular forces: Terylene, Polythene, Neoprene. (1)
- Define antagonist drugs. (1)
- Write the structural formula of: 1-bromo-4sec-butyl-2-methyl benzene. (1)
- Arrange the following compounds in decreasing order of their reactivity towards HCN: (1)
acetaldehyde, Di-tert butyl ketone, acetone, methyl tert-butyl ketone.
- Draw the structure of the derivative cyclopropanone oxime. (1)
- Aniline does not undergo Friedel-Crafts reaction. Why? (1)
- Write a chemical test to distinguish between $C_6H_5NH_2$ (aniline) and $C_6H_5NH-CH_3$ (N-methyl aniline) (1)
- What are the products of hydrolysis of lactose? (1)
- Write the IUPAC name of: (1)

$$\begin{array}{c} H_3C-C=C-CH_2OH \\ | \quad | \\ CH_3 \quad Br \end{array}$$
- Write the name of any polymer that is used to make unbreakable crockery. (1)
- Why vitamin C cannot be stored in our body? (1)
- Out of  and , which is an example of vinylic halide? (1)
- Predict the major product of acid catalysed dehydration of 1-methyl cyclohexanol. (1)
- Show how will you synthesize cyclohexyl methanol using an alkyl halide by an SN^2 reaction. (1)
- Write the name of the reagent used to convert hexan-1-ol to hexanal. (1)
- Classify the following into monosaccharides and disaccharides: (1)
Ribose, maltose, fructose, sucrose
- Write the structure of the monomers of Buna-N. (1)
- What is the importance of PHBV polymers? (1)
- Identify 'A' and 'B' in the following reaction: (1)

$$\text{Cyclohexyl-Br} + Mg \xrightarrow[\text{ether}]{\text{dry}} A \xrightarrow{H_2O} B$$
- Define ambident nucleophiles with an example. (1)

SECTION-B

- What do you understand by broad spectrum antibiotics? Give an example. (2)
 - (a) Differentiate: Copolymer & Homopolymer. (b) Give one example of each. (2)
 - Convert the following: (2)
(i) Aniline to nitro benzene
(ii) Benzoic acid to Aniline
 - "The two strands of DNA are not identical but are complimentary". Explain. (2)
 - Give reasons: (2)
(i) Racemic mixture is optically inactive.
(ii) n-butyl bromide has higher boiling point than tert butyl-bromide.
 - Write the mechanism of acid catalysed dehydration of ethanol at 413K. (2)
- OR**
- Write the mechanism of acid catalysed hydration of ethene.
- Write a note on: (2)
(i) Stephen's reduction. (ii) Cannizzaro reaction.

SECTION-C

28. (i) How do antiseptics differ from disinfectants? (3)
(ii) Mention the action of the following drugs on the human body in bringing relief from a disease.
(a) Aspirin (b) Equanil

OR

- (i) The use of aspartame is limited to cold foods and drinks. Why?
(ii) Define cationic detergents.
(iii) With reference to which classification has the statement, "ranitidine is an antacid", been given? (3)

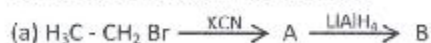
29. (i) Differentiate between fibrous and globular protein. (2+1=3)
(ii) Name the vitamin responsible for coagulation of blood.

OR

- (i) What products would be formed when a nucleotide from DNA containing thymine is hydrolysed?
(ii) Name the linkage found in carbohydrates.
(iii) Enumerate the two reactions of D-glucose which cannot be explained by its open chain structure.

30. (i) Arrange the following in decreasing order of pK_b values
 $C_2H_5NH_2$, $C_6H_5NHCH_3$, $(C_2H_5)_2NH$ and $C_6H_5NH_2$

- (ii) Complete the following reactions:



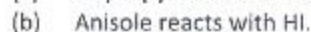
(3)

31. (i) (A), (B) and (C) are three non-cyclic functional isomers of a compound with molecular formula C_4H_8O . Isomers A and C give positive Tollen's test whereas isomer B does not give Tollen's test but gives positive Iodoform test. Isomers A and B on reaction with $Zn-Hg / HCl(\text{conc})$ give the same product (D). Write the structures of (A), (B), (C) and (D).

- (ii) Give one chemical test to distinguish between benzoic acid and phenol. (2+1=3)

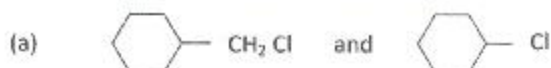
32. (i) Why p-nitro phenol is more acidic than p-methyl phenol?

- (ii) What happens when : (write equations)



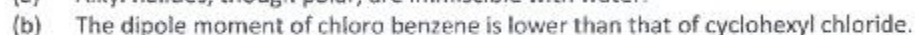
(3)

33. (i) In the following pairs which is faster undergoing SN^2 reaction and why?



- (ii) Predict the major alkene that would be formed by dehydrohalogenation of 2-chloro-2-methyl butane. (3)

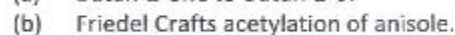
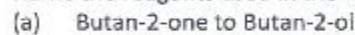
34. (i) Give reason:



- (ii) Among the isomeric alkanes of molecular formula C_5H_{12} , identify the one that on photochemical chlorination yields a single monochloride. (3)

SECTION-D

35. (i) Name the reagents used in the following reactions:



- (ii) Write a note on Williamson Synthesis.

- (iii) Convert propanone to 2-methyl propan-2-ol.

- (iv) Unlike phenol, alcohol is easily protonated. Why? (5)

OR

- (i) Write the names of the reagents for the preparation of 2-methyl-2-methoxy propane by Williamson Synthesis.

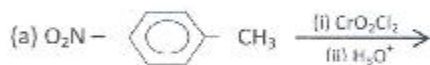
- (ii) Write a note on Reimer-Tiemann reaction.

- (iii) Write a chemical test to distinguish between propanol and 2-methyl propan-2-ol.

- (iv) A compound ($C_4H_{10}O$) on oxidation with acidified $K_2Cr_2O_7$ gives B ($C_4H_8O_2$). 'A' when dehydrated with conc H_2SO_4 at 443K gives compound C. When C is treated with aqueous H_2SO_4 gives D ($C_4H_{10}O$) which is an isomer of A, D is resistant to oxidation but compound A is easily oxidised. Identify A, B, C and D. (5)

36. (i) An organic compound 'A' with molecular formula C_8H_8O forms an orange-red precipitate with 2, 4 DNP reagent and gives yellow ppt on heating with I_2 in presence of NaOH. It neither reduces Tollen's or Fehling's reagent, nor does it decolourise bromine water. On drastic oxidation with chromic acid, it gives a carboxylic acid (B) having molecular formula $C_7H_6O_2$. Identify the compounds A and B.

(ii) Complete the reaction:



(5)

OR

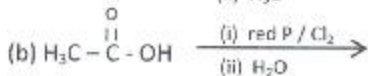
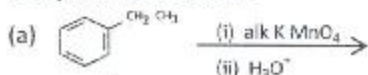
(i) Arrange the given compounds according to their increasing acidic strength.



(ii) Cyclohexanone form cyanohydrin in good yield but 2, 2, 6-trimethyl cyclohexanone does not. Why?

(iii) Complete the reaction:

(5)



37. (i) Write the structure and IUPAC name of the amide which gives butanamide by Hoffmann bromamide reaction.

(ii) Why diazonium salts of aromatic amines are more stable than those of aliphatic amines.

(iii) Complete the reaction:



(2+1+2=5)

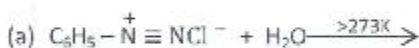
OR

(i) Gabriel phthalimide synthesis is preferred for synthesising primary amines. Why?

(ii) Arrange C_2H_5OH , $(CH_3)_2NH$, $C_2H_5NH_2$ according to their increasing boiling point.

(iii) Convert Aniline to chloro benzene.

(iv) Complete the reaction:



(5)



DELHI PUBLIC SCHOOL, BHILAI

Date : 09.09.2019

FIRST-TERM EXAMINATION, 2019

Time : 3 Hrs.

Class – XII

SUBJECT – ENGLISH CORE

M.M. 80

General Instructions:

- The question paper is divided in three sections. All the sections are compulsory
 - Section A – Reading Skills
 - Section B – Writing Skills & Grammar
 - Section C – Literature
- Specific instructions , wherever necessary are given. Follow them strictly

Section A – Reading Skills (Marks : 20)

1. Read the passage given below and answer the questions that follow: (12)

1. Children of the urban elite attract attention for all the wrong reasons. From being school rowdies to road bullies they do all kind of nefarious roles. Parents are helpless before their aggressiveness. Breaking things, fretting for the impossible to be done, pestering for unaffordable items, children want their way each time.
2. Apparently this may look perfectly normal as children are children. Children's demanding behaviour gets a boost. When this habit hardens, it is difficult to handle such wards. Unreasonable demands are continuously met. When parents decide to modify their children's behaviour, it is too late.
3. Neena suffered from a severe anxiety syndrome. She told the psychiatrist that when her son was just 9, she taught him how to drive a car. By the time he was 16, he had developed an obsession for it. Whenever he fancied he took the car out. On being stopped, he would rebel. Neena became a nervous wreck when her son had his way each time. She started having nightmarish visions of him getting involved in an accident. This example should serve as a deterrent for all those who cannot say 'no' to all the demands of their children.
4. Unfortunately, even middle class parents give their children too much too early. According to psychologists, there are social, cultural and economic reasons for this. Parents want their children to flaunt their riches to impress the neighbours. But soon, this practice is used as a 'weapon' against the parents themselves and the little kids become the masters.
5. A seven-year-old boy did not budge an inch and asked the sales girl. "Please pack the item; mom will pay." The poor embarrassed mother took the boy out of the show-room and argued but all in vain. Mastered by the little master, the mother paid the bill. A specialist opined - it seems to be a consequence of the pamper-the-child attitude. The mother should have taken a stern stand. Most parents fear doing this as the child might harm himself. But most such children are cowards and cannot go beyond blackmailing or throwing tantrums to invite attention. They are rich spoilt brats and for this behaviour, the parents are responsible. This behavioural abnormality must be checked in time.
6. For the 'nouveau riche', of our society, handling the wayward behaviour of their children has become a crucial parenting issue. Talk to any parent and he/she will tell you myriad tales. They will tell you, how, under stress their work is affected. Many lose their sleep and take tranquilisers. Many join meditation and chanting camps. It's hard to absorb how much childhood norms have shifted in just one generation. Actions that would have been considered paranoid in the 70's--walking third-graders to school, forbidding your kid to play ball in the street, going down the slide with your child in your lap-are now routine.
7. Steps to be taken to handle children: Keep privacy; punishment should not be a revenge but a corrective measure; if need be, take action and assert your individuality; be affectionate; no humiliating punishment; teach the child to respect the work of others and give him no latitude to scatter things about and increase your workload; inculcate in him the sense of respecting your needs and your timings; if he keeps his room cluttered, don't hesitate to ask him to clean the mess; a grown-up child may want to just freak out. Allow it with limitations imposed. If in the name of 'changed times' your daughter argues with you and pleads to be treated as 'a responsible and grown-up person' you could tell her, you do not trust others; treat the child psychologically; don't be a boss but a friend; have the guts to correct your child; your action and deed should not be contradictory.

8. Children of today have come to know a little too much in too little a time. They present arguments that one would be stunned to hear. They may talk to you rudely. They use such arguments to demoralise parents and have their way.
9. If, while discussing matters, the child begins to talk in an offensive manner, immediately snub him and tell him that it is disrespectful to talk like that. Follow this with a convincing dialogue with him. Don't threaten or command. Talk to him with conviction and not anger. If you are a strict disciplinarian, change your attitude to one of understanding. Tell him that you feel concerned. This will solve many of your problems.

a) On the basis of your understanding of the passage answer the questions that follow with the help of the given options. (1x5=5)

- (i) Parents should take a stand against their children's undue demands.
(a) casual (b) stern (c) happy go lucky (d) indifferent
- (ii) A spoilt child does not need
(a) love (b) care (c) humiliating punishment (d) warning
- (iii) Today's children put forward arguments that are
(a) imaginary (b) convincing (c) bold (d) shallow
- (iv) Under stress parents many a time
(a) lose their sleep and punish children
(b) take tranquilisers and humiliate them
(c) join meditation and chanting camps
(d) get angry and show hatred
- (v) Talk to your child not with anger but with
(a) disgust (b) conviction (c) hatred (d) rudeness

b) Answer the following questions briefly (10-15 words). (1x5=5)

- (i) What will happen if demanding behaviour gets a boost?
(ii) Why do the nouveau riche flaunt their riches?
(iii) How are many rich parents handling their child's bad behaviour?
(iv) What should you tell your daughter if she pleads to be treated as a 'responsible and grown up' person?
(v) What should a parent do when his child talks offensively ?

c) Find words from the passage which mean the same as : (1x2=2)

- (i) A feeling of worry (Para 3)
(ii) Rules (para 6)

2. Read the passage carefully and answer the questions given below. (8)

1. Occasional self-medication has always been part of normal living. The making and selling of drugs has a long history and is closely linked, like medical practice itself, with belief in magic. Only during the last hundred years or so, with the development of scientific techniques diagnosis has become possible. The doctor is now able to follow up the correct diagnosis of many illnesses-with specific treatment of their causes. In many other illnesses of which the causes remain unknown, he is still limited, like the unqualified prescriber, to the treatment of symptoms. The doctor is trained to decide when to treat symptoms only and when to attack the cause. This is the essential difference between medical prescribing and self-medication.

2. The advance of technology has brought about much progress in some fields of medicine, including the development of scientific drug therapy. In many countries public health organization is improving and people's nutritional standards have risen. Parallel with such beneficial trends are two which have an adverse effect. One is the use of high pressure advertising by the pharmaceutical industry which has tended to influence both patients and doctors and has led to the overuse of drugs generally. The other is the emergence of over-eating, insufficient sleep, excessive smoking and drinking. People with disorders arising from faulty habits such as these, as well as from unhappy human relationships, often resort to self-medication. Advertisers go to great lengths to catch this market.

3. Clever advertising, aimed at chronic sufferers; who will try anything because doctors have not been able to cure them, can induce such faith in a preparation, particularly if steeply priced. Advertisements are also aimed at people suffering from mild complaints such as simple colds and coughs which clear up by themselves within a short time.
4. These are the main reasons, why laxatives, indigestion-remedies, painkillers, cough-mixtures, tonics, vitamin and iron tablets, nose drops, ointments and many other preparations are found in quantity in many households. It is doubtful whether taking these things ever improves a person's health, it may even make it worse. Worse, because the preparation may contain unsuitable ingredients; worse because the taker may become dependent on them; worse because they might be taken in excess; worse because they may cause poisoning, and worst of all because symptoms of some serious underlying cause may be masked and therefore medical help may not be sought. Self-diagnosis is a greater danger than self-medication.
 - a) On the basis of your reading of the above passage, make notes on it, in points only, using headings and sub-headings. Also use recognizable abbreviations, wherever necessary (Minimum four). Supply an appropriate title to it. (5)
 - b) Write a summary of the above passage in about 80 words. (3)

Section B – Writing Skills & Grammar (Marks : 30)

3. Prepare a poster on kindness to animals, in not more than 50 words, to be displayed in the city at public places, appealing to the people to show kindness towards animals. You are the president of Animal Welfare Society, Durg (4)

OR

You are Bhavesh / Bhavna Singh. You decide to hold a dinner party on the occasion of your father's 60th birthday. Draft a formal birthday invitation in not more than 50 words for all family members and close friends to attend a grand dinner at your home.

4. You are the Cultural Secretary of the Students Council of your school. This summer vacation the school is planning to take 20 students to Shimla. Write a letter, in not more than 120 to 150 words to a travelling agency asking for information regarding accommodation available, cost, mode of travel for sight-seeing trips and any other facility you require there. (6)

OR

P.V. Sindhu created history by being the first Indian to win the gold medal in **Badminton World Championships**. Write a letter to the editor, in not more than 120 to 150 words highlighting the importance of games and sports amongst girls, so that more girls excel in this field.

5. Recently there have been many accounts of increase in crimes against the elderly in the newspapers. You are Raveena /Ravi Mishra. Write a speech in around 150 to 200 words to be delivered in the morning assembly on ... 'Caring for the elderly, a must in present times.' (10)

OR

You are Mohan / Malini, the student editor of Sunshine Public School, Nagpur. Your school organised an adult literacy camp in the neighbourhood. Write a report in around 150 to 200 words for your school magazine. Use the following clues.

number of volunteers - hours spent in teaching - location of the class – chairs, blackboard - number of people attending the camp – benefits.

6. You are Arya / Aryan Sood. Write a debate, for or against the motion. "Children should take part in Reality Shows". Write a debate in not more than 150 to 200 words. (10)

OR

You are Mallik/Manju. You are very much concerned about the craze for westernization among the youth of today. You are worried about the erosion of our culture and values. Write an article on this issue in about 150 to 200 words highlighting the need to preserve one's age old culture.

Section C – Literature (Marks : 30)

7. **Read the extract given below and answer the questions that follow:** (1x4=4)
"It would be an exotic moment
without rush, without engines,
we would all be together
in a sudden strangeness."

:: 4 ::

- a) Which exotic moment is referred to in these lines?
- b) Why would that moment be strange?
- c) What does the poet advocate in the poem?
- d) What does the poet mean by the word 'engines'?

OR

"Far far from gusty waves these children's faces,
Like rootless weeds, the hair torn round their pallor,
The tall girl with her weighed-down head"

- a) Who are these children?
- b) Which figure of speech has been used in the second line?
- c) Why is the tall girl's head weighed down?
- d) What does the word 'pallor' mean?

8. Read the extract given below and answer the questions that follow:

(1x4=4)

"there was terror in my heart at the over powering force of the waves".

- a) From which lesson is this extract taken ?
- b) Who is the speaker of the given lines ?
- c) When did he start fearing water?
- d) Which experience further strengthened his fear ?

OR

"You do preach worse than a parson" said the iron master. "I only hope you won't have to regret this."

- a) From which lesson is this extract taken ? Name the author.
- b) Who is the Ironmaster speaking to ?
- c) What had just been 'preached' to the iron master?
- d) Who is a 'parson' ?

9. Answer any five of the following questions in 30-40 words each.

(2x5=10)

- a) How did M Hamel display his love for the French language?
- b) What does the writer mean when she says Saheb is no longer his own master?
- c) How did the instructor make Douglas a good swimmer?
- d) What did the peddler do to keep his body and soul together?
- e) How did the psychiatrist friend try to explain the mystery of the third level?
- f) Why is Antarctica the place to go to understand the earth present past and future?
- g) Why was Sadao not sent abroad with the troops?

10. Answer any one of the following questions in 120 to 150 words.

(6)

Draw a character sketch of M.Hamel.

OR

The bangle makers of Firozabad make beautiful bangles and make everyone happy but they live and die in squalor. Elaborate.

11. Answer any one of the following question in 120 to 150 words.

(6)

How did the Tiger king meet his end? What is ironical about his fate?

OR

How did the arrival of the prisoner destroy the peace of Sadao's home?

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# DELHI PUBLIC SCHOOL, BHILAI

Date : 18.09.2019  
Class – XII

FIRST-TERM EXAMINATION, 2019  
SUBJECT – PHYSICS

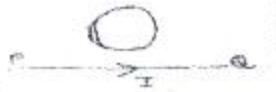
Time : 3 hrs.  
M.M. 70

### GENERAL INSTRUCTIONS :

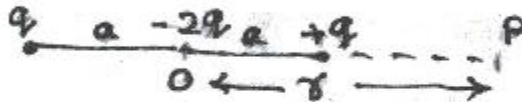
- All questions are compulsory. There are 37 questions in all.
- The question paper consists of four sections A, B, C and D.
  - Section : A contains 20 objective type questions of one mark each,
  - Section : B contains 7 questions of two marks each,
  - Section : C contains 7 questions of three marks each,
  - Section : D contains 3 questions of five marks each.
- There is no overall choice. However, an internal choice (s) has been provided in one question of two marks, two questions of three marks and three questions of five marks weightage. You have to attempt only one of the choices in such questions.

### SECTION : A

- Q.01 Drift velocity of electrons alone determines the current in a conductor. True or False..... (01)
- Q.02 A positive charge moving vertically upward enters a magnetic field directed towards south. What is the direction of the force on the charge? (01)
- Q.03 Transformer is based on the principle of ..... (01)
- Q.04 The current in a wire in the direction from P to Q is decreasing. What is the direction of induced current in the metallic loop kept above the wire as shown in the figure? (01)



- Q.05 A magnetic needle, free to rotate in a vertical plane, orients itself vertically at a certain place on the Earth. What is the value of angle of dip at this place? (01)
- Q.06 A point charge  $+10 \mu C$  is at the centre of a Cubic Gaussian Surface 9 cm of edge. What is the net electric flux through the surface? (01)
- Q.07 Write the dimension of magnetic flux. (01)
- Q.08 Three bulbs 40W, 60W and 100W are connected to 220V mains. Which bulb will glow brightly, if they are connected in series? (01)
- Q.09 The magnetic flux linked with a coil is  $\phi = (4t^2 - 3t + 2)$  milliweber. Find the emf induced in the coil at  $t=1$  sec. (01)
- Q.10 A carbon resistor is marked in coloured bands of red, yellow, green and silver. Write the value of resistance in  $K \Omega$  with tolerance. (01)
- Q.11 Draw graph showing the variation of terminal voltage of  $V$  of the cell with an external resistance  $R$ . (01)
- Q.12 What is the dependence of potential on  $r$  for quadrupole for a point P on the axis of this array of charges for  $r \gg a$ ? (01)



- Q.13 Alloys usually have much (lower/higher) temperature coefficients of resistance than pure metals. Write the correct alternative. (01)
- Q.14 Why are oscillations of a copper sheet in a magnetic field highly damped? (01)
- Q.15 Why are pole pieces of galvanometer made concave? (01)
- Q.16 Find the amount of work done in rotating an electric dipole of dipole moment  $\vec{p}$  in a uniform electric field  $\vec{E}$  from the position of unstable equilibrium to the stable equilibrium. (01)
- Q.17 What is the formula for the peak value of alternating emf in an a.c. generator? (01)
- Q.18 In a Potentiometer arrangement, a cell of emf 1.25 V gives a balance point at 35.0 cm length of the wire. If the cell is replaced by another cell and the balance point is shifted to 63.0 cm, what is the emf of the second cell? (01)
- Q.19 Why soft iron is used in the core of transformer? (01)



- Q.20** A rectangular loop and a circular loop are moving out of a uniform magnetic field region to a field free region with a constant velocity  $V$ . In which loop do you expect the induced emf to be constant during the passage out of the field region ? (01)



**SECTION : B**

- Q.21** Define electric field intensity. Why do the electrostatic field lines not form closed loops? (02)
- Q.22** Define the term 'resistivity'. Draw a graph showing the variation of resistivity with temperature for a semi-conductor. (02)
- Q.23** How does one understand the motional emf by invoking the Lorentz force acting on the free charge carriers of the conductor? Explain and hence derive  $e=Blv$ . (02)
- Q.24** A wire AB is carrying a steady current of 10 A and is lying on the table. Another wire CD carrying 6A is held directly above AB at a height of 2 mm. Find the mass per unit length of the wire CD so that it remains suspended at its position when left free (take  $g=10\text{ms}^{-2}$ ) (02)

OR

- A circular coil of 30 turns and radius 8 cm carrying a current of 6A is suspended vertically in a uniform horizontal magnetic field of magnitude 1.0T. The field lines make an angle of  $60^\circ$  with the plane of the coil. Calculate the magnitude of the counter torque that must be applied to prevent the coil from turning.
- Q.25** Define dielectric strength. Draw a graph showing the variation of energy of the capacitor with charge on the capacitor. (02)
- Q.26** The susceptibility of a magnetic material is 0.9853. Identify the type of magnetic material. Draw the modification of the field pattern on keeping a piece of this material in a uniform magnetic field. (02)
- Q.27** Calculate the temperature at which the resistance of a conductor becomes 20% more than its resistance at  $27^\circ\text{C}$ . The value of the temperature coefficient of resistance of the conductor is  $2 \times 10^{-4}/\text{K}$ . (02)

**SECTION : C**

- Q.28** Define the term 'mutual inductance' between the two coils. Obtain the expression for mutual inductance of two long coaxial solenoids of same length wound one over the other. (03)

OR

- Define the term 'self-inductance' of a coil. Obtain the expression for self-inductance of a long solenoid.
- Q.29** Depict magnetic field lines due to straight, long, parallel conductors carrying steady currents  $I_1$  and  $I_2$  in the same direction. Deduce an expression for the force per unit length. Determine the direction of this force. (03)
- Q.30** An aeroplane is flying horizontally towards west at the speed of 1800 km/h. What is the voltage difference developed between the ends of the wing 24 m long if the horizontal component of the Earth's magnetic field is  $5 \times 10^{-4}\text{T}$  and the angle of dip is  $30^\circ$ . (03)

OR

- A wheel with 10 metallic spokes, each 50 cm long is rotated with a speed of 120 rev/min in a plane normal to the horizontal component of the Earth's magnetic field. The Earth's magnetic field at the place is 0.4G and the angle of dip is  $60^\circ$ . Calculate the emf induced between the axle and the rim of the wheel. How will the value of emf be affected if the number of spokes are increased?
- Q.31** A cell of emf 'E' and internal resistance 'r' is connected across a variable resistor 'R'. Plot a graph showing variation of terminal voltage 'V' of the cell versus the current I. Using the plot, show how the emf of the cell and its internal resistance can be determined. (03)
- Q.32** Apply Gauss' law to derive the electric field due to an infinite plane sheet of charge having surface charge density  $\sigma \text{ C/m}^2$ . (03)
- Q.33** A particle of charge q and mass m is moving with velocity  $\vec{v}$  in the positive X direction. (03)
- (a) It is subjected to a uniform magnetic field B directed along negative Z direction. Explain briefly the trajectory it would describe.
- (b) When the particle is subjected simultaneously to both the magnetic and electric fields directed along the Z axis and Y axis respectively, obtain the condition when the particle will go undeflected.
- Q.34** Derive an expression for the electric field strength at a distant point situated on the axis of an electric dipole. (03)



**SECTION : D**

- Q.35 (a)** Draw a neat labelled diagram of a cyclotron. **(05)**  
**(b)** Show that cyclotron frequency is independent of speed of the particle.  
**(c)** An electron after being accelerated through a Potential difference of 100 V enters a uniform magnetic field of 0.004T perpendicular to its directions of motion. Calculate the radius of the path described by the electron. ( $m_e = 9.1 \times 10^{-31} \text{kg}$ ,  $e = 1.6 \times 10^{-19} \text{C}$ )

- Q.36 (a)** State the principle of working of a potentiometer.  
**(b)** Draw the circuit diagram of a potentiometer which can be used to determine the internal resistance of a given cell of emf E. Derive the formula used.  
**(c)** A storage battery of emf 8.0 V and internal resistance  $0.5 \Omega$  is being charged by a 120V dc supply using a series resistor of  $15.5 \Omega$ . What is the terminal voltage of the battery during charging?

**OR**

- (a)** Find the total power consumed, when three electrical appliances consume powers,  $P_1$ ,  $P_2$  and  $P_3$  respectively are, in turn, connected in (i) series and (ii) parallel across the same voltage supply.  
**(b)** When two known resistances R and S are connected in the left and right gaps of a meter bridge, the balance point is found at a distance  $l_1$  from the zero end of the wire. An unknown resistance X is now connected in parallel to the resistance S and the balance point is found at a distance  $l_2$ . Obtain a formula for X in terms of  $l_1$ ,  $l_2$  and S.

- Q.37 (a)** Find the expressions for the force and torque on an electric dipole kept in a uniform electric field.  
**(b)** Two opposite corners of a square carry Q charge each and the other two opposite corners of the same square carry q charge each. If the resultant force on q is zero, how Q and q related? **(05)**

**OR**

- (a)** Derive the expression of capacitance of Parallel Plate Capacitor when a dielectric Slab of thickness  $t < d$  (distance between the plates) introduced in it.  
**(b)** Three charges  $-q$ , Q and  $-q$  are placed at equal distances on a straight line. If the potential energy of the system of three charges is zero, then what is the ratio of Q:q ?







## DELHI PUBLIC SCHOOL, BHILAI

Date : 18.09.2019  
Class: XII

FIRST TERM EXAMINATION-2019  
SUBJECT – ACCOUNTANCY

Time : 3 Hrs.  
M.M.: 80

**General Instructions:**

- This question paper contains 32 questions.
- All the questions are compulsory.
- Each question carries marks indicated against it.
- Please write down correct serial number of the question before attempting it.
- All questions of a section and all parts of a question must be attempted at one place.

**PART – A**

**ACCOUNTING FOR NOT-FOR-PROFIT ORGANISATIONS AND PARTNERSHIP FIRMS**

- Sale of grass in the case of a sports club is:
 

|                     |                     |     |
|---------------------|---------------------|-----|
| (a) Capital Receipt | (b) Revenue Receipt |     |
| (c) An Asset        | (d) Profit          | (1) |
- Loan Fund is created for:
 

|                                 |                      |     |
|---------------------------------|----------------------|-----|
| (a) Paying the Loan             | (b) Raising the Loan |     |
| (c) Payment of Interest on Loan | (d) Granting Loan    | (1) |
- Manan and Naman were partners in a firm sharing profits in the ratio of 3:2. During the year ended 31<sup>st</sup> March, 2019 Manan had withdrawn ₹ 15,000 and Naman withdrew ₹ 20,000. Interest on Manan's drawings amounted to ₹ 300 and that on Naman's drawings was ₹ 400. Pass necessary journal entry for charging interest on Manan's drawings assuming that the capitals of the partners were fixed. (1)
- A, B and C are partners in a firm sharing profits in the ratio 2:2:1. C is guaranteed a minimum profit of ₹ 40,000 by A. profit for the year amounted to ₹ 1,60,000. The profit credited to each partner will be:
 

|                                  |                                  |     |
|----------------------------------|----------------------------------|-----|
| (a) ₹ 40,000; ₹ 80,000; ₹ 40,000 | (b) ₹ 56,000; ₹ 64,000; ₹ 40,000 |     |
| (c) ₹ 64,000; ₹ 64,000; ₹ 32,000 | (d) ₹ 60,000; ₹ 60,000; ₹ 40,000 | (1) |
- Rent paid to a partner is debited to:
 

|                               |                                           |     |
|-------------------------------|-------------------------------------------|-----|
| (a) Partner's Capital Account | (b) Partner's Current Account             |     |
| (c) Profit and Loss Account   | (d) Profit and Loss Appropriation Account | (1) |
- A firm earned ₹ 50,000 as profit in the first year, twice the profit of first year in the second year and one and half times the profit of second year in the third year. The value of goodwill at 2 years purchase of average profits of three years will be:
 

|                |                |     |
|----------------|----------------|-----|
| (a) ₹ 2,00,000 | (b) ₹ 1,50,000 |     |
| (c) ₹ 2,50,000 | (d) ₹ 1,30,000 | (1) |
- Which one of the following does not affect goodwill?
 

|                              |                           |     |
|------------------------------|---------------------------|-----|
| (a) Nature of business       | (b) Technical know-how    |     |
| (c) Efficiency of management | (d) Location of customers | (1) |
- A, B, C, D and E are in partnership sharing profits and losses equally. They mutually agree to change the profit-sharing ratio to 5:4:3:2:1. In this process, E losses:
 

|                              |                              |     |
|------------------------------|------------------------------|-----|
| (a) 1/15 <sup>th</sup> Share | (b) 2/15 <sup>th</sup> Share |     |
| (c) 1/5 <sup>th</sup> Share  | (d) 3/15 <sup>th</sup> Share | (1) |
- A and B shared profit and losses in the ratio of 3:2. With effect from 1<sup>st</sup> April, 2019, they agreed to share profits equally. The goodwill of the firm was valued at ₹ 60,000. The single adjusting entry will be:
 

|                                      |                                      |     |
|--------------------------------------|--------------------------------------|-----|
| (a) Debit B and Credit A by ₹ 6,000. | (b) Debit A and Credit B by ₹ 6,000. |     |
| (c) Debit B and Credit A by ₹ 600.   | (d) Debit A and Credit B by ₹ 600.   | (1) |
- A and B are partners in a firm sharing profits and losses in the ratio of 4:1. A new partner C is admitted. A surrenders 1/4 of his share and B surrenders 1/2 of his share in favour of C. C's share will be:
 

|          |          |     |
|----------|----------|-----|
| (a) 3/4  | (b) 1/5  |     |
| (c) 1/10 | (d) 3/10 | (1) |



11. X and Y are partners in a firm sharing profits in the ratio of 5:3. They admitted Z as a new partner. The new profit-sharing ratio will be 4:3:2. The firm's goodwill on Z's admission was valued at ₹ 1,26,000. But Z could not bring any amount of goodwill in cash. Credit will be given to:  
 (a) X ₹ 17,500; Y ₹ 10,500 (b) X ₹ 16,000; Y ₹ 12,000  
 (c) X ₹ 22,750; Y ₹ 5,250 (d) X ₹ 1,02,375; Y ₹ 23,625 (1)
12. A, B and C are partners sharing profits in the ratio of 4:3:2. B retires, selling his share of profit to A and C for ₹ 7,200 (₹ 4,000 paid by A and ₹ 3,200 paid by C). The new profit-sharing ratio of A and C will be:  
 (a) 17:10 (b) 15:12 (1)  
 (c) 19:8 (d) 17:12

Fill in the blanks with appropriate words:

13. On the death of a partner, his share in the profits of the firm till the date of his death is transferred to the debit side of ..... Account. (1)
14. Retiring partner is compensated for parting with the firm's future profits in favour of remaining partners. The remaining partners contribute to such compensation amount in ..... Ratio. (1)
15. Unrecorded liability paid at the time of dissolution is debited to ..... Account. (1)  
**State whether the following statements are True or False (Q.N. 16 to 18)**
16. Goodwill can be sold in part. (1)
17. On the death of a partner, Credit balance of Profit and Loss Account appearing in the Balance Sheet should be credited to the Capital Account of all partners including the deceased partner in their profit-sharing ratio. (1)
18. The amount received from realisation of all assets of the firm is first used to pay the external liabilities of the firm. (1)
19. A charitable society had received ₹ 50,000 as subscriptions during the year 2018-19. Subscriptions due but not received on 1.4.2018 were ₹ 8,000, out of which ₹ 3,000 were received during 2018-19. Subscriptions outstanding for 2018-19 are ₹ 4,500. Subscriptions received in advance on 31.3.2018 were ₹ 7,000 and subscriptions received in advance on 31.3.2019 were ₹ 5,300. Prepare Subscriptions Account for the year ending 31<sup>st</sup> March, 2019. (3)
20. A, B and C are partners in a firm sharing profits and losses in the ratio of 2:2:1 and from today onwards, they decided to share future profits and losses equally. Pass single journal entry for the following items:  
 (i) General Reserve appear in the Balance Sheet at ₹ 1,20,000.  
 (ii) Profit and Loss Account had a debit balance of ₹ 30,000.  
 (iii) Revaluation of assets and liabilities show a profit of ₹ 30,000.

(OR)

Distinguish between Sacrificing Ratio and Gaining Ratio on the basis of:

- (a) Meaning (b) Calculation (c) Occasion (3)

21. Show the following information in the Balance Sheet of the Parth Skating Club as on 31<sup>st</sup> March, 2019 and prepare Tournament Fund Account:

| Particulars                             | Debit (₹) | Credit (₹) |
|-----------------------------------------|-----------|------------|
| Tournament Fund                         |           | 1,50,000   |
| Tournament Fund Investments             | 1,50,000  |            |
| Income from Tournament Fund Investments |           | 18,000     |
| Tournament Expenses                     | 12,000    |            |

22. Manoj, Nitin and Om are partners in a firm sharing profits in the ratio of 3:1:1. Their fixed capital balances are ₹ 4,00,000; ₹ 1,60,000 and ₹ 1,20,000 respectively. Net Profit for the year ended 31<sup>st</sup> March, 2019 distributed amongst the partners was ₹ 1,00,000, without taking into account the following adjustments:  
 (a) Interest on capitals @ 2.5% p.a.;  
 (b) Salary to Manoj ₹ 18,000 p.a. and commission to Om ₹ 12,000.  
 (c) Manoj was allowed a commission of 6% of divisible profit after charging such commission.  
 Pass a rectifying journal entry in the books of the firm. Show your workings clearly. (4)
23. From the following Receipts and Payments Account of Rajasthan Art, Dance & Sports Society, Jaipur and other information given, prepare Income and Expenditure Account for the year ended 31<sup>st</sup> March, 2019 and Balance Sheet as on that date:



| Receipts and Payments A/c<br>for the year ended 31 <sup>st</sup> March, 2019 |                 |                         |                 |
|------------------------------------------------------------------------------|-----------------|-------------------------|-----------------|
| Dr.                                                                          | Amount          | Payments                | Cr.             |
| Receipts                                                                     | Amount          |                         | Amount          |
|                                                                              | ₹               |                         | ₹               |
| To Balance b/d                                                               | 14,000          | By Prizes               | 4,400           |
| To Subscriptions                                                             | 48,000          | By Games Equipment      | 4,000           |
| To Profit on Dance show                                                      | 29,600          | By Printing             | 3,200           |
| To Collection from Matches                                                   | 5,000           | By Rent and Rates       | 27,000          |
| To Competition Fees                                                          | 3,600           | By Stationery           | 4,400           |
| To Sale of Refreshments                                                      | 16,400          | By Postage              | 3,800           |
|                                                                              |                 | By Secretary's Expenses | 2,800           |
|                                                                              |                 | By Wages                | 24,000          |
|                                                                              |                 | By Repairs (Equipment)  | 5,400           |
|                                                                              |                 | By Refreshments         | 10,200          |
|                                                                              |                 | By Balance c/d          | 27,400          |
|                                                                              | <b>1,16,600</b> |                         | <b>1,16,600</b> |

The following matters should be taken into account:

- Capital fund as at 1<sup>st</sup> April, 2018 ₹ 84,000.
  - Fixed assets owned by the club as at 1<sup>st</sup> April, 2018: Furniture and Fittings ₹ 30,000; Games Equipment ₹ 40,000. These are to be depreciated @ 10% on opening values.
  - Amounts outstanding as at 31<sup>st</sup> March, 2019: Printing ₹ 800; Refreshments ₹ 1,400.
  - On 31<sup>st</sup> March, 2019: Rent paid in Advance ₹ 3,000; Subscriptions due ₹ 2,400; Subscriptions in Advance ₹ 1,000.
24. A, B and C were partners in a firm sharing profits in the ratio of 2:1:2. Their capitals were ₹ 2,00,000; ₹ 1,50,000 and ₹ 2,00,000 respectively. The firm closes its books on 31<sup>st</sup> March every year. On 31<sup>st</sup> March, 2019, B died. The executors of a deceased partner according to the agreement was entitled for the following:
- Interest on Capital (to the deceased partner only) from the first day of the accounting year till the date of his death @ 10% p.a.
  - His share of goodwill. The goodwill of the firm on B's death was valued at ₹ 3,00,000.
  - His share of profits. The profit of the firm for the year ended 31<sup>st</sup> March, 2019 was ₹ 1,50,000 before providing for interest on capital.
- Prepare B's Capital Account as on 31<sup>st</sup> March, 2019 and his Executors' Account.

(OR)

X, Y and Z were partners in firm sharing profits in the ratio of 2:2:1. The firm closes its books on 31<sup>st</sup> March every year. On 31<sup>st</sup> December, 2018, Z died. On that date, his Capital Account showed a credit balance of ₹ 3,80,000 and Goodwill of the firm was valued at ₹ 1,20,000. There was a debit balance of ₹ 50,000 in the Profit and Loss Account. Z's share of profit in the year of his death was to be calculated on the basis of the average profit of last five years. The average profit of last five years was ₹ 75,000. Pass necessary Journal Entries in the books of the firm on Z's death.

25. The Balance Sheet of Srijan and Tushar who share profits and losses in the ratio of 3:2, as on 31<sup>st</sup> March, 2019 was as follows:

| Liabilities               | Amount          | Assets                  | Amount          |
|---------------------------|-----------------|-------------------------|-----------------|
|                           | ₹               |                         | ₹               |
| Capital Accounts:         |                 | Patents                 | 20,000          |
| Srijan                    | 1,20,000        | Investments             | 1,00,000        |
| Tushar                    | 80,000          | Stock                   | 60,000          |
| General Reserve           | 40,000          | Debtors                 | 1,30,000        |
| Workmen Compensation Fund | 24,000          | Less: Provision for B/D | 10,000          |
| Creditors                 | 56,000          | Cash at Bank            | 20,000          |
|                           | <b>3,20,000</b> |                         | <b>3,20,000</b> |



They decided to admit Vijit on 1<sup>st</sup> April, 2019 for 1/4<sup>th</sup> share on the following terms:

- Vijit shall bring ₹ 50,000 as his share of goodwill.
  - The unaccounted accrued income of ₹ 1,000 be provided for.
  - The market value of investments was ₹ 90,000.
  - A debtor whose dues of ₹ 2,000 were written off as bad debts paid ₹ 1,600 in full settlement.
  - A claim of ₹ 4,000 on account of workmen compensation to be provided for.
  - Patents are undervalued by ₹ 10,000.
  - Vijit shall bring in capital equal to 1/4<sup>th</sup> of the total capital of the new firm after all adjustments.
- Prepare Revaluation Account, Partners' Capital Accounts and the Balance Sheet of the new firm.

(OR)

Gyanesh, Henry and Krishna were partners in a firm. Their Balance Sheet on 31<sup>st</sup> March, 2019 was as under:

| Liabilities       |        | Amount   | Assets              |  | Amount   |
|-------------------|--------|----------|---------------------|--|----------|
|                   |        | ₹        |                     |  | ₹        |
| Sundry Creditors  |        | 50,000   | Land and Buildings  |  | 80,000   |
| Capital Accounts: |        |          | Plant and Machinery |  | 56,000   |
| Gyanesh           | 80,000 |          | Motor Car           |  | 54,000   |
| Henry             | 80,000 |          | Goodwill            |  | 30,000   |
| Krishna           | 60,000 | 2,20,000 | Debtors             |  | 48,000   |
|                   |        |          | Cash at Bank        |  | 2,000    |
|                   |        | 2,70,000 |                     |  | 2,70,000 |

The following terms have been agreed upon retirement of Gyanesh:

- Goodwill is to be valued at ₹ 42,000.
- The value of Land and Building would be appreciated by ₹ 20,000.
- The value of Plant and Machinery would be reduced to ₹ 46,000.
- Create provision for doubtful debts at 5% on debtors.
- Create provision for discount of ₹ 1,400 on creditors.
- The entire sum payable to Gyanesh is to be brought by Henry and Krishna in such a manner that their capital accounts are in proportion to their profit-sharing ratio. (8)

Prepare Revaluation Account, Partners' Capital Accounts and the Balance Sheet of new firm.

26. Arun and Tarun were partners sharing profits and losses in the ratio of 3:2. They decided to dissolve the firm on 31<sup>st</sup> March, 2019, when their Balance Sheet was as under:

| Liabilities       |        | Amount | Assets                  |         | Amount |
|-------------------|--------|--------|-------------------------|---------|--------|
|                   |        | ₹      |                         |         | ₹      |
| Creditors         |        | 40,000 | Cash                    |         | 14,000 |
| Mrs. Arun's Loan  |        | 10,000 | Stock                   |         | 8,000  |
| Tarun's Loan      |        | 15,000 | Debtors                 | 18,000  |        |
| General Reserve   |        | 5,000  | Less: Provision for B/D | (1,000) | 17,000 |
| Capital Accounts: |        |        | Furniture               |         | 4,000  |
| Arun              | 10,000 |        | Plant                   |         | 30,000 |
| Tarun             | 8,000  | 18,000 | Investment              |         | 10,000 |
|                   |        |        | Profit and Loss Account |         | 5,000  |
|                   |        | 88,000 |                         |         | 88,000 |

The firm was dissolved on 1<sup>st</sup> April, 2019 on the following terms:

- Arun took over investment at ₹ 8,000 and agreed to pay off the loan of his wife.
- The assets realised as follows:  
Stock ₹ 4,800; Furniture ₹ 1,000 more than its book value; Plant ₹ 20,000 less than its book value.  
Debtors falling due on 1<sup>st</sup> June, 2019 were realised at a discount of 10% p.a.
- Expenses of realisation were ₹ 1,200.
- Creditors were paid at a discount of 12% p.a. three months before their due date.
- Firm had an unrecorded asset of ₹ 5,000 which was accepted by unrecorded liability of ₹ 7,000 in full settlement of their claim.

Prepare necessary ledger accounts to close the books of the firm.

(OR)



The following is the Balance Sheet of Gupta and Sharma as on 31<sup>st</sup> December, 2018:

| Liabilities        |        | Amount   | Assets                  |         | Amount   |
|--------------------|--------|----------|-------------------------|---------|----------|
|                    |        | ₹        |                         |         | ₹        |
| Creditors          |        | 38,000   | Cash at Bank            |         | 12,500   |
| Mrs. Gupta's Loan  |        | 20,000   | Stock                   |         | 44,000   |
| Mrs. Sharma's Loan |        | 30,000   | Debtors                 | 55,000  |          |
| General Reserve    |        | 6,000    | Less: Provision for B/D | (4,000) | 51,000   |
| Capital Accounts:  |        |          | Bills Receivable        |         | 19,000   |
| Gupta              | 90,000 |          | Plant and Machinery     |         | 52,000   |
| Sharma             | 60,000 | 1,50,000 | Investment              |         | 38,500   |
|                    |        |          | Furniture               |         | 27,000   |
|                    |        | 2,44,000 |                         |         | 2,44,000 |

The firm was dissolved on 31<sup>st</sup> December, 2018 on the following terms:

- The realisation of the assets were as follows:  
Sundry Debtors ₹ 52,000; Stock ₹ 42,000; Bills Receivable ₹ 16,000; Machinery ₹ 49,000.
  - Investment was taken over by Gupta at agreed value of ₹ 36,000 and he agreed to pay off Mrs. Gupta's loan.
  - The sundry creditors were paid off less 3% discount.
  - The realisation expenses incurred amounted to ₹ 1,200.
- You are required to pass necessary journal entries to be made on the dissolution of the firm. (8)

#### PART – B

##### ANALYSIS OF FINANCIAL STATEMENTS

- 'Claims against the Company not acknowledged as debts' is shown under the head:
  - Current Liabilities
  - Non-Current Liabilities
  - Commitments
  - Contingent Liabilities
 (1)
- 'Interest accrued but not due on loans' appear in a Company's Balance Sheet under the sub-head:
  - Short-term Borrowings
  - Trade Payables
  - Other Current Liabilities
  - Short-term Provisions
 (1)
- Classify the following items under Main Head and Sub-Head in the Balance Sheet of a Company as per Schedule III of the Companies Act, 2013:
  - Capital Work-in Progress
  - Provision for Warranties
  - Income Received in advance
  - Capital Advances
 (4)
- Explain any four tools of Financial Statement Analysis. (OR) (4)
- Briefly explain any four objectives of Financial Statement Analysis. (4)
- Distinguish between Horizontal Analysis and Vertical Analysis on the basis of:
  - Period
  - Items
  - Utility
  - Information
 (4)
- Prepare Comparative Statement of Profit and Loss from the following information: (6)

| Particulars                                               | 31.3.2019 | 31.3.2018 |
|-----------------------------------------------------------|-----------|-----------|
|                                                           | ₹         | ₹         |
| Revenue from Operations                                   | 10,00,000 | 8,00,000  |
| Cost of Materials Consumed                                | 4,00,000  | 3,00,000  |
| Change in Inventories of Finished Goods, Work-in-Progress | 2,00,000  | 1,00,000  |
| Other Income                                              | 2,20,000  | 1,50,000  |
| Other Expenses (% of Cost of Revenue from Operations)     | 15%       | 10%       |
| Tax Rate                                                  | 30%       | 30%       |

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# DELHI PUBLIC SCHOOL, BHILAI

Date : 13.09.2019

Class – XII

FIRST-TERM EXAMINATION, 2019

SUBJECT – HOME SCIENCE

Time : 3 Hrs.

M.M. 70

**GENERAL INSTRUCTIONS:**

- All questions are compulsory.
- Marks are indicated against the questions.

- 
- Q.01 Define rhythm in dress designing. (01)
- Q.02 What do you understand by emphasis related to principles of design. (01)
- Q.03 What is unfair trade practice? (01)
- Q.04 Name two products having eco mark on them. (01)
- Q.05 Write one advantage and one disadvantage of advertisements. (01)
- Q.06 Which policy is compulsory for salaried persons? (01)
- Q.07 Use of human skills of the family members comes under which type of income? (01)
- Q.08 Write dietary consideration for a fever patient. (01)
- Q.09 Write one point of difference between Haemolytic and Obstructive Jaundice. (01)
- Q.10 What is satiety value of a food item? (01)
- Q.11 Give one example of superstition regarding food intake, prevalent in our society. (01)
- Q.12 Name the second food group (ICMR) and write its role in the diet. (01)
- Q.13 Name the bacteria which is found usually in the cuts, boils, sores & droplets from cough. (01)
- Q.14 What is cross contamination? (01)
- Q.15 What is barter system? (01)
- Q.16 What is psychic income? (01)
- Q.17 What is restrictive trade practice? (01)
- Q.18 Draw a silk mark. (01)
- Q.19 How is asymmetrical balance created in a dress? (02)
- Q.20 Why is saving important? (02)
- Q.21 Name any four units which are regulated by FSSAI. (02)
- Q.22 Write dietary requirements of a constipation patient. (02)
- Q.23 What is the role of insulin hormone? (02)
- Q.24 How does quasi-judicial machinery under consumer protection act-II, work? (03)
- Q.25 What is Senior Citizen Saving Scheme? (03)
- Q.26 Lines play very important role in dress designing. Explain with some examples. (04)
- Q.27 Where do you find hall mark? Mention the parts it consists. (04)
- Q.28 What is Mediclaim Policy? Does this policy provide tax rebate? (04)
- Q.29 What are the conditions of penalty under FSSAI? (04)
- Q.30 Kesari dal is used as an adulterant. Name any three food items where this may be added. How is it hazardous to our health? (05)
- Q.31 Write a reason and required quantity for a pregnant woman under the following heads – (a) Calories (b) Proteins (c) Iron (d) Calcium (e) Vit A (05)
- Q.32 What are the rights and responsibilities of a consumer? (05)
- Q.33 How will you create unity in a design? Write any five points and support your answer with the relevant diagrams. (05)





## DELHI PUBLIC SCHOOL, BHILAI

Date : 13.09.2019  
Class – XII

FIRST-TERM EXAMINATION, 2019  
SUBJECT – GEOGRAPHY

Time : 3 Hrs.  
M.M. 70

### GENERAL INSTRUCTIONS :

- All the questions are compulsory.
- Map given should be attached within the answer script.
- Marks allotted to each questions is given against it.

- Q.01 What is physiological density of population ? (1x10=10)
- Q.02 What is pull factor?
- Q.03 Which state has lowest Human Development Index?
- Q.04 What is panna?
- Q.05 What is Intensity of cropping?
- Q.06 What is Nyay Panchayat ?
- Q.07 What is Behavioural school of thought ?
- Q.08 What is the doubling time of India's population ?
- Q.09 What is development ?
- Q.10 Which country measures gross national happiness?
- Q.11 What are the basic areas of human development ? (3x10=30)
- Q.12 What is rural-urban composition of the population ? Define literacy.
- Q.13 Discuss the stages of demographic transition theory.
- Q.14 Discuss age-sex pyramid.
- Q.15 Write a note on scope of human geography.
- Q.16 Give the classification of towns.
- Q.17 How mineral resources should be conserved ?
- Q.18 Differentiate between conventional and Non-Conventional sources of energy.
- Q.19 Discuss water budget.
- Q.20 Name the ores, uses & location of Iron Ore.
- Q.21 Give an account of occupational structure of India's population. The Agricultural sector has largest share of workers. Why ? (3+2=05)
- Q.22 Discuss population, environment and development. (05)
- Q.23 What are the problems of agriculture? (05)
- Q.24 What is watershed development? What is Neeru-Meeru? Give the objectives of National Water Policy. (1+1+03=05)
- Q.25 (a) On the given political map of the world, identify the items marked as A,B,C,D & E. (1x5=05)
- (b) Locate and label the following on the political map of India. (1x5=05)
- (i) State having highest % of urban population.
  - (ii) State having lowest density of population
  - (iii) State having highest gender ratio
  - (iv) State where mainly linear pattern of settlement is found.
  - (v) State with maximum ground water potential.



Q 25 (a) Identify the items marked as A, B, C, D & E

**THE WORLD - POLITICAL**



- INDEX**
- A Country having highest density of population
  - B A megacity
  - C A country having largest population
  - D A country having lowest growth rate of population
  - E A capital city

© Government of India Copyright, 2011.  
 1. Based upon Survey of India map with the permission of the Surveyor - General of India.  
 2. The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate baseline.  
 3. The External Boundary and coastline of India shown on this map agree with the Record / Master Copy certified by the Survey of India, Dehra Dun.

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# DELHI PUBLIC SCHOOL, BHILAI

Date : 13.09.2019  
Class – XII

FIRST-TERM EXAMINATION, 2019  
SUBJECT – BIOTECHNOLOGY

Time : 3 Hrs.  
M.M. 70

### GENERAL INSTRUCTIONS :

- Question paper consists of four sections - A, B, C & D.
- Questions 1 to 15 carry one mark each.
- Questions 16 to 22 carry two marks each.
- Questions 23 to 29 carry three marks each.
- Questions 30 to 33 carry five marks each.

### SECTION – A

- Q.01 What is the name of the hybrid vector of lambda phage and plasmid? (01)
- Q.02 What are cryoprotectants? Name two cryoprotectants. (01)
- Q.03 Animal cells were grown in a peptone glucose broth, they failed to grow. Why? (01)
- Q.04 How can self-ligation be avoided in a recombinant DNA construction? (01)
- Q.05 State the importance of inverted microscope in animal cell culture. (01)
- Q.06 Golden rice is superior to normal rice. Why? (01)
- Q.07 Name the substances produced by plants to protect against abiotic stress. (01)
- Q.08 Write a distinguishing feature of PBR322 and PUC 19 vectors. (01)
- Q.09 Name a medium commonly used in plant cell culture. What factors dictate the choice of medium? (01)
- Q.10 Expand RFLP. Write an application of it. (01)
- Q.11 Name the monoclonal Ab used in animal cell culture to treat breast cancer. State the action of it. (01)
- Q.12 Name the first cloning vector constructed and used in cloning experiment using mammalian cells. (01)
- Q.13 Why temperature has to be maintained in culturing animal cells? (01)
- Q.14 How are artificial seeds prepared? (01)
- Q.15 What is the role of growth regulators in plant cell culture? (01)

### SECTION – B

- Q.16 What are restriction enzymes? How do bacterial cell protect itself from bacteriophages? (02)
- Q.17 Describe the various steps in micropropagation. (02)
- Q.18 Why prokaryotic cells cannot be used for culturing eukaryotic cells? (02)
- Q.19 How can unnecessary pollination be avoided and restored back in plant using rDNA technology? (02)
- Q.20 What are the different methods of gene delivery in animal cell culture? (02)
- Q.21 Explain the production of tPA in animal cell culture. (Diagram to be made) and uses of tPA. (02)
- Q.22 State the difference between soma clonal and gamete clonal variation. (02)

OR

Compare micro injection and biolistic method of gene transfer in plants. (02)

### SECTION – C

- Q.23 Explain site directed mutagenesis with the help of diagram and state an application of it. (03)
- Q.24 What is insertional inactivation? Explain blue white screening of identifying the recombinants. (03)
- Q.25 What are the two types of animal cell culture? Which is better and why? State any three properties of infinite cell lines. (03)
- Q.26 Plastics are non-biodegradable and cause pollution. Explain an alternative method of preparing biodegradable plastics using rDNA technology. (03)
- Q.27 Explain the different methods of scaling up animal cells. (03)
- Q.28 How are protoplasts isolated? Explain any four applications of it. (03)
- Q.29 The global community is facing an important challenges associated with public perception of transgenic crops. What are the major concerns? Any six concerns. (03)

OR

What are secondary metabolites? Name any six plants and its secondary products produced through plant cell culture. (03)

Contd...2

SECTION – D

- Q.30** How can a strand of DNA be amplified. Explain the procedure with the help of diagram. State two application of it. (05)  
OR  
How can a specific sequence of DNA fragments identified from a heterologous population of DNA. Explain the technique with the help of diagram.
- Q.31** Why *Agrobacterium tumefaciens* is called natural engineer of plants? Explain the process of vector mediated gene transfer in plants. (05)
- Q.32** Write the use of the following in animal cell culture (a) LAF (b) CO<sub>2</sub> incubator (c) OKT3 (05)  
OR  
What is gene knock out. Explain the production of chimeric mouse using ES culture.
- Q.33** Explain Sanger's method of sequencing DNA. Write the structure of ddNTP. (05)  
OR  
State the difference between genomic and cDNA library with the help of diagram. Show the construction of a genomic library with the help of diagram.







# DELHI PUBLIC SCHOOL, BHILAI

Date : 13.09.2019

FIRST-TERM EXAMINATION, 2019

Time : 3 Hrs.

Class – XII

SUBJECT – MATHEMATICS

M.M. 80

**GENERAL INSTRUCTIONS :**

- (i) All questions are compulsory
- (ii) Please check that this question paper contains 36 questions.
- (iii) In **Section A** : Question No. 1 to 15 are objective type questions and Question No. 16 to 20 are very short answer type questions carrying one mark each.
- (iv) In **Section B** : Questions 21 to 26 are short answer type questions carrying 2 marks each with 3 options.
- (v) In **Section C** : Questions 27 to 32 are long answer type Questions carrying 4 marks each with 3 options.
- (vi) In **Section D** : Questions 33 to 36 are long answer type Questions carrying 6 marks each with 4 options.
- (vii) Please write down the serial number of the question before attempting it.
- (viii) Use of calculator is not permitted.

**SECTION – A**

1. If A is an invertible matrix of order 3 and  $|A| = 5$ , then what is the value of  $|adjA|$ 
  - (a) 25
  - (b) 125
  - (c)  $\frac{1}{25}$
  - (d)  $\frac{1}{125}$
2. The number of all possible matrices of order  $3 \times 3$  with each entry 1 or 0 is
  - (a) None of these
  - (b) 128
  - (c) 512
  - (d) 1024
3.  $\begin{vmatrix} a-b & b-c & c-a \\ x-y & y-z & z-x \\ p-q & q-r & r-p \end{vmatrix}$  is equal to :
  - (a)  $a(x+y+z) + b(p+q+r) + c$
  - (b) 0
  - (c)  $abc + xyz$
  - (d) None of these
4. The maximum number of equivalence relations on the set  $A = \{1,2,3\}$  are :
  - (a) 5
  - (b) 6
  - (c) 3
  - (d) None of these
5.  $f: R \rightarrow R$  given by  $f(x) = x^2 + x + 1$ .
  - (a) one – one and onto
  - (b) one – one but not onto
  - (c) onto but not one one
  - (d) neither one-one nor onto
6. If  $3 \tan^{-1} x + \cot^{-1} x = \pi$ , then x equals.
  - (a) 0
  - (b) 1
  - (c) -1
  - (d)  $\frac{1}{2}$
7. If  $\sin^{-1} x + \sin^{-1} y = \frac{\pi}{2}$ , then value of  $\cos^{-1} x + \cos^{-1} y$  is
  - (a)  $\frac{\pi}{2}$
  - (b)  $\pi$
  - (c) 0
  - (d)  $\frac{2\pi}{3}$
8. If  $y = \log \log x$ , then  $e^y \frac{dy}{dx}$  is equal to.
  - (a)  $\frac{1}{x \log x}$
  - (b)  $\frac{1}{x}$
  - (c)  $\frac{1}{\log x}$
  - (d)  $e^y$
9. If  $x = e^{y+e^{y+\dots}}$ ,  $x > 0$ , then  $\frac{dy}{dx}$  is
  - (a)  $\frac{x}{1+x}$
  - (b)  $\frac{1}{x}$
  - (c)  $\frac{1-x}{x}$
  - (d)  $\frac{1+x}{x}$
10. The function  $f(x) = \tan x - x$ ,
  - (a) always increases
  - (b) always decreases
  - (c) never decreases
  - (d) some times increases and some times decreases.
11. Which of the following functions are decreasing on  $(0, \pi/2)$ ?
  - (a)  $\cos x$
  - (b)  $\cos 4x$
  - (c)  $\cos 3x$
  - (d)  $\tan x$ .
12. What is the slope of the tangent to the curve  $y = 3x^4 - 4x$  at  $x = 4$ .
  - (a) 764
  - (b) 664
  - (c) 24
  - (d) 0
13. What is the slope of the normal to the curve  $x = a \cos^3 \theta, y = a \sin^3 \theta$  at  $\theta = \frac{\pi}{4}$ 
  - (a) 0
  - (b) 1
  - (c) -1
  - (d)  $\frac{1}{2}$
14. If A is a square matrix of order 3 and  $|3A| = k|A|$ , then the value of k is
  - (a) 9
  - (b) 3
  - (c) 27
  - (d) None of these

15. If  $y = 2\sqrt{\cot(x^2)}$ , then  $\frac{dy}{dx}$  is equal to  
 (a)  $\frac{-2x}{\sqrt{\cot x^2}} \operatorname{cosec}^2 x$  (b)  $\frac{-2x}{\sqrt{\cot x^2}} \operatorname{cosec}^2 x^2$  (c)  $\frac{-x}{\sqrt{\cot x^2}} \operatorname{cosec}^2 x^2$  (d) None of these
16. If  $\begin{vmatrix} 3x & 7 \\ -2 & 4 \end{vmatrix} = \begin{vmatrix} 8 & 7 \\ 6 & 4 \end{vmatrix}$ , find the value of  $x$ .
17. If  $f(x) = x + 7$  and  $g(x) = x - 7$ ,  $x \in \mathbb{R}$ , find  $(f \circ g)(7)$
18. Evaluate:  $\cos^{-1}(\cos \frac{7\pi}{4})$
19. For what value of  $x$ , the matrix  $\begin{bmatrix} 5-x & x+1 \\ 2 & 4 \end{bmatrix}$  is singular?
20. Write the possible number of relations from a set  $A = \{a, b, c\}$  to set  $B = \{x, y\}$

**SECTION - B**

21. If  $A = \begin{bmatrix} 3 & -2 \\ 4 & -2 \end{bmatrix}$ , find  $k$  such that  $A^2 = kA - 2I_2$

OR

If  $A = \begin{bmatrix} 2 & 3 \\ 5 & -2 \end{bmatrix}$ , write  $A^{-1}$  in terms of  $A$

22. Using the properties of determinants, prove that:  $\begin{vmatrix} 1 & a & a^2 \\ 1 & b & b^2 \\ 1 & c & c^2 \end{vmatrix} = (a-b)(b-c)(c-a)$
23. If  $y = (x + \sqrt{x^2 + a^2})^n$ , prove that  $\frac{dy}{dx} = \frac{ny}{\sqrt{x^2 + a^2}}$
24. Verify Rolle's theorem for the following function:  $f(x) = (x-1)(x-2)^2$  in  $[1, 2]$ .
25. Using differentials, find the approximate value of  $(82)^{1/4}$

OR

Find the approximate change in the surface area of a cube of side  $x$  meters caused by decreasing the side by 1%.

26. Show that the tangents to  $y = 7x^3 + 11$  at  $x = 2$  and  $x = -2$  are parallel

OR

Prove that the function  $f$  given by  $f(x) = \log \cos x$  is strictly decreasing on  $(0, \frac{\pi}{2})$ .

**SECTION - C**

27. Using properties of determinants, solve for  $x$ :  $\begin{vmatrix} a+x & a-x & a-x \\ a-x & a+x & a-x \\ a-x & a-x & a+x \end{vmatrix} = 0$

OR

If  $x, y, z$  are different and  $\begin{vmatrix} x & x^2 & 1+x^3 \\ y & y^2 & 1+y^3 \\ z & z^2 & 1+z^3 \end{vmatrix} = 0$ , Using properties of determinants show that  $xyz = -1$

28. Let  $A = \mathbb{R} - \{3\}$  and  $B = \mathbb{R} - \{1\}$ . Consider the function  $f: A \rightarrow B$  defined as  $f(x) = \frac{x-2}{x-3}$ . Show that  $f$  is one-one and onto and hence find  $f^{-1}$ .

29. Solve for  $x$ :  $\tan^{-1} 3x + \tan^{-1} 2x = \frac{\pi}{4}$

30. Find the value of  $k$ , for which  $f(x) = \begin{cases} \frac{\sqrt{1+kx} - \sqrt{1-kx}}{x}, & \text{if } -1 \leq x < 0 \\ \frac{2x+1}{x-1}, & \text{if } 0 \leq x < 1 \end{cases}$  is continuous at  $x = 0$

31. Find  $\frac{dy}{dx}$  if  $y = (x \cos x)^x + (x \sin x)^{\frac{1}{x}}$

OR

If  $x = a(\cos t + t \sin t)$  &  $y = a(\sin t - t \cos t)$ ,  $0 < t < \frac{\pi}{2}$ , find  $\frac{d^2x}{dt^2}$ ,  $\frac{d^2y}{dt^2}$  &  $\frac{d^2y}{dx^2}$ .

32. Find the intervals in which the following functions are increasing or decreasing:  
 $f(x) = 8 + 36x + 3x^2 - 2x^3$

OR

Find the equation of the tangent and the normal to the curve  $y = x^2 + 4x + 1$  at the point whose  $x$ -coordinate is 3



**SECTION - D**

33. Given that  $A = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$  and  $B = \begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$ , find  $AB$ . Use this to solve the following system of equations  $x - y = 3$ ,  $2x + 3y + 4z = 17$ ,  $y + 2z = 7$

OR

Using elementary transformations, find the inverse of the matrix  $A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 2 & 0 & 5 \end{bmatrix}$

34. Show that the relation  $R$  in the set  $A = \{x \in Z : 0 \leq x \leq 12\}$  given by  $R = \{(a, b) : |a - b| \text{ is a multiple of } 4\}$  is an equivalence relation. Find the set of all elements related to 1.

OR

Show that the relation  $S$  in the set  $R$  of real numbers, defined as  $S = \{(a, b) : a, b \in R \text{ and } a \leq b^3\}$  is neither reflexive, nor symmetric nor transitive.

35. Show that the semi vertical angle of a cone of maximum volume and of given slant height is  $\tan^{-1}\sqrt{2}$

OR

Prove that the volume of the largest cone that can be inscribed in a sphere of radius  $R$  is  $\frac{8}{27}$  of the volume of the sphere.

36. If  $a, b, c$  are positive and unequal, show that the following determinant is negative :  $\Delta = \begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$

OR

Using properties of determinants prove that

$$\begin{vmatrix} 1 + a^2 - b^2 & 2ab & -2b \\ 2ab & 1 - a^2 + b^2 & 2a \\ 2b & -2a & 1 - a^2 - b^2 \end{vmatrix} = (1 + a^2 + b^2)^3$$





## DELHI PUBLIC SCHOOL, BHILAI

Date : 16.09.2019  
Class - XII

FIRST-TERM EXAMINATION, 2019  
SUBJECT – BUSINESS STUDIES

Time : 3 Hrs.  
M.M. 80

### GENERAL INSTRUCTIONS :

- The Question Paper is divided into five sections : A, B, C, D & E respectively.
  - Section A** : consists of Question no. 1 to 20 of 1 mark each.
  - Section B** : consists of Question No. 21 to 25 of 3 marks each.
  - Section C** : consists of Question No. 26 to 28 of 4 marks each.
  - Section D** : consists of Question No. 29 to 31 of 5 marks each.
  - Section E** : consists of Question No. 32 to 34 of 6 marks each.
- Attempt all parts of a question together.

### SECTION : A

- Q.01** At which level of management the managers are responsible for the Welfare and Survival of the Organisation. (01)  
(a) Middle Level (b) Top Level (c) Supervisory Level (d) Fourth Level
- Q.02** Sohan started his business of processed food items. Being the Sole Proprietor of business, he used to take all the decisions. When the business of Sohan expanded, he continued with the old practice of controlling all by himself. It led to delay in all important decisions. Identify the management principle violated by Sohan in the given case. (01)
- Q.03** Demonetisation is viewed as a tax administration measure. True or False. (01)
- Q.04** Choice of advertising media is concerned with (01)  
(a) Procedure (b) Strategy (c) Policy (d) Budget
- Q.05** Name the concept which helps a manager to extend his area of operations as without it, his activities would be restricted to only what he himself can do. (01)
- Q.06** Why is selection considered a negative process? (01)
- Q.07** Vaibhav & Keshav are friends working in Supreme Ltd. as Production Manager and Sales Manager respectively. In an interdepartmental meeting Vaibhav informed Keshav about a change in the Marketing Policy of the company. Identify the type of communication used in the above para. (01)
- Q.08** The 'focus point' for a Manager while controlling should be ..... , as controlling at each and every step is not possible. (01)
- Q.09** Success of dabbawalas of Mumbai is an example of ..... aspect of Management. (01)  
(a) Delegation (b) Decentralisation (c) Coordination (d) Supervision
- Q.10** Gang Plank permits vertical communication. True or False. (01)
- Q.11** Booking of railway tickets through internet from home or office is an example of (01)  
(a) Technological Environment (b) Political Environment  
(c) Social Environment (d) Economic Environment
- Q.12** The Delhi Government put restrictions on selling fast food in School canteens. Identify the type of plan. (01)
- Q.13** The employees of Nuclear Pvt. Ltd., a software company have formed a Dramatics Group for their recreation. Name the type of organisation so formed. (01)
- Q.14** Differentiate between workload Analysis and workforce Analysis. (01)
- Q.15** Sadaf is the CEO of a reputed company. She introduced appropriate skill development programmes and a sound promotion policy for the employees of her company. To motivate and retain the best talent in the company, she designed the jobs of the managers to include greater variety of the work content. Identify the two incentives introduced by Sadaf to motivate the employees of her company. (01)
- Q.16** Which principle of Management control is based on the belief that an attempt to control everything results in controlling nothing. (01)
- Q.17** Three Subordinates A, B and C receive orders from Z. In such a situation which principle of management is being observed. (01)  
(a) Unity of Direction (b) Equity (c) Discipline (d) Unity of Command

Contd...2



:: 2::

- Q.18** A Company allows only ten leaves for its employees during one year. Which type of plan is it? (01)  
**Q.19** There is no scope of fresh talent in ..... source of recruitment. (01)  
**Q.20** To satisfy social, esteem and psychological needs which incentive is required? (01)

**SECTION : B**

- Q.21** Evergreen Ltd. set up a project to extract oils from the seeds of fruits of trees which grow naturally in a forest. These oils have industrial use. The company set up its factory near the forest which is inhabited by disadvantaged people. It recruited local workers and trained them. The company inculcated the motto of efficiency among them. The company decided to pay substantial bonus to its employees every year.

Identify the objectives of management which the company pursued and explain them briefly.

(1½x2=03)

- Q.22** A recent rate cut in the interest on loans announced by the banks encouraged Amit, a Science Student of Progressive School to take a loan from SBI to experiment and develop cars to be powered by fuel produced from garbage. He developed such a car and exhibited it in the Science Fair organised by Directorate of Education. He was awarded first prize for his invention.

Identify explain the dimensions of business environment discussed in the above case.

(03)

**OR**

Philips a company manufacturing light bulbs incurred heavy expenditure on Scientific Research & Development and discovered a technology that made it possible to produce an energy efficient light bulb that lasts atleast twenty times as long as a standard bulb. It resulted in growth and profitability of the company.

- (a) Identify and explain the dimension of business environment mentioned above. (2+1=03)  
(b) State the point of importance of business environment mentioned above by quoting the lines.
- Q.23** Differentiate between delegation and decentralisation on the basis of : (1x3=03)  
(a) Nature (b) Scope (c) Purpose
- Q.24** After passing his Secondary School Examination David left the school at the age of 15 years and started getting training under his father. His father, a renowned electrician, had worked for many companies. He everyday started accompanying his father on work and watched him carefully while working. David was a good learner and learnt the techniques of work quickly. Now his father started passing on the tricks of the trade to David. With the passage of time David acquired a high level skill and became a well-known electrician at Bhopal.  
(a) Name and explain the method of training discussed in the above para. (2+1=03)  
(b) State any one benefit which David could get on being trained.
- Q.25** Steelo Ltd. is engaged in manufacturing machine components. The target production is 250 units per day per worker. The company had been successfully attaining this target until two months ago. Over the last two months it has been observed that daily the last two months it has been observed that daily production varies between 200-210 units per worker.  
(a) Name the function of management and identify the step in the process of this function.  
(b) To complete the process of the function identified in (a) and to ensure the performance as per set targets, explain what further steps a manager has to take. (2+1=03)

**SECTION : C**

- Q.26** Explain briefly any four features of management.

**OR**

Explain briefly any four functions of Middle Level Management.

(04)

- Q.27** 'Care For You Ltd.' is a famous services providing company. Mr. Ankit Bhatia is its Managing Director. He continuously motivates his R & D department that new and latest methods of doing work must be explored. The provisions has also been made to give reward to those employees who will participate in a particular exploration. He also believes that two groups working on managerial and non-managerial posts are similar to two wheels of an organisational vehicle. If this vehicle (organisation) is to be driven in a right way then both the wheels should be properly aligned. Mr. Bhatia is a successful leader. Among his employees, he has instilled the feeling that no decision will be taken without consulting the subordinates. To excel among the other companies in this field is the main motive of Mr. Bhatia. Paying attention to training is the secret of the company.

Identify the four principles of Scientific management highlighted in the above para by quoting the lines.

(04)

- Q.28** What do you mean by leadership? Explain the different styles of leadership (with diagram). (04)

Contd...3



**SECTION : D**

**Q.29** Rajat joined as CEO of Bharat Ltd., a firm manufacturing Computer Hardware. On the first day he addressed the employees. He said that he believed that a good company should have an employee suggestion system and he wished to minimise employee turnover to maintain organisational efficiency. He informed all employees that he would ensure that all agreements were clear, fair and there was judicious application of Penalties. However, he said that he believed that lazy personnel should be dealt with sternly to send the message that everyone was equal in the eyes of management. Also that he would want to promote a team spirit of unity and harmony among employees. He told all present that the interests of the organisation should take priority over the interest of any one individual employee.

Identify and briefly explain any five principles of management given by Fayol, which Rajat highlighted in his address to his employees. (05)

**Q.30** A reputed car manufacturing company in NCR is facing the problem of decline in its market share due to its internal mismanagement. Therefore, it has planned to increase its production capacity at its Gurgaon Plant by manufacturing low-priced eco-friendly cars for price sensitive consumers and introducing new models with added features for quality conscious customers. For this the company issues shares to the public and raises ₹ 150 Crore. The company purchases more machinery required to increase production.

- (a) Identify and explain the type of plan the company is preparing.  
(b) State the steps involved in this plan quoting the lines from the above case. (2+3=05)

**OR**

Identify the type of plans in the following statements. (1x5=05)

- (a) Girls will be given a 5% cut off rebate for admission in the college.  
(b) Library will issue at one time only 4 books for 15 days.  
(c) Any employee found logging to any social networking site in the office will be punished.  
(d) Coca Cola reduces prices of its products in response of price cut by Pepsi.  
(e) A discount of 10% will be offered to all the customers buying goods worth ₹ 20,000 or more.

**Q.31** Write about the importance of decentralisation.

**OR**

(05)

Explain briefly the features of Informal Organisation Structure.

**SECTION : E**

**Q.32** Aman and Aditya have decided to start a business of manufacturing toys. They identified the following main activities :

- |                              |                                                      |
|------------------------------|------------------------------------------------------|
| (a) Purchase of raw material | (b) Purchase of machinery                            |
| (c) Arrangement of finance   | (d) Manufacturing of toys                            |
| (e) Sale of toys             | (f) Appointment of managers & selection of employees |

- (a) Identify the function of management involved here.  
(b) Quote the lines which helped you to identify the function.  
(c) State the steps followed in the process of this function of management. (1+1+4=06)

**Q.33** Explain briefly the steps of staffing. (06)

**OR**

Explain the following :

- |                        |                         |
|------------------------|-------------------------|
| (a) Vestibule Training | (b) Internship Training |
| (b) Casual Callers     | (d) Induction Training  |
- (1½ X4=06)

**Q.34** What do you mean by directing function of management? Explain the need. Hierarchy Theory of Maslow (with diagram) (1+5=06)

**OR**

Write in brief the meaning of communication. What are the different types of communication? Explain briefly the different barriers to communication. (1+1+4=06)





DATE : 11-09-2019



DELHI PUBLIC SCHOOL, BHILAI (C.G.)

FIRST TERMINAL EXAMINATION, 2019 Time : 3 Hours

CLASS : XII

COMPUTER SCIENCE

M.M : 70

No. of Printed Pages : 8

**General Instructions :**

- i) All the questions are compulsory within each section.
- ii) Programming Language : C++

1. a) Write the type of C++ tokens (i.e. keywords and identifiers) from the following : (2)  
(i) new (ii) While (iii) case (iv) Num\_2

b) What is the benefit of using default parameter/argument in a function? Give a suitable example to illustrate it using C++ code. (2)

c) Write the names of the correct header files, which must be included to compile the code successfully. (2)

```
void main()
{ clrscr();
  ofstream fout ("WISH.TXT")
  char TEXT2[] = "good day",
  char TEXT1[] = "John!";
  toupper (TEXT2);
  streat(TEXT1, TEXT2);
  fout<<TEXT1<<endl;
}
```

d) Rewrite the following C++ program after removing any/all syntactical error(s). Note : Assume all required header files are already included in the program. (2)

```
# define Area (L,B) = L*B
structure Recta
{ int Length, Breadth;
};
void main()
{ Recta R = [10,15];
  cout <<Area(Length.R, Breadth.R);
}
```

e) Write the output of the following C++ program code : (2)

Note : Assume all required header files are already being included in the program.

```
void Location (int &X, int Y=4)
{ Y+=2;
  X+=Y;
}
void main ()
{ int PX=10, PY=2;
  Location (PY);
  cout<<PX<< " , " <<PY<<endl;
  Location (PX, PY);
  cout<<PX<< " , " <<PY<<endl;
}
```

f) Find the output of the following program : (3)

```
void SwitchOver (int A[], int N, int split)
{
  for (int K = 0; K<N; K++)
    if (K<split)
```

... 2 ...

```

        A[K]+ = K;
    else
        A[K]* = K;
    }
void Display (int A[], int N).
{
    for (int K = 0; K<N; K++)
        (K%2== 0)? cout<<A[K]<<"%": cout<<A[K]<<endl;
}
void main ()
{
    int H[]={30,40,50,20,10,5};
    SwitchOver (H, 6, 3);
    Display (H, 6);
}

```

g) Find the output of the following program :

(3)

```

#include <iostream.h>
int x =10;
void pass (int&a, int b, int &c)
{
    int x =4;
    ct = x;
    a* = :: x;
    b+ = c;
}
void main()
{
    int y=1, x=2;
    pass (y, :: x, x);
    cout <<x<<" : " <<y<<" : " <<:: x<< endl;
    pass (:: x, x, y);
    cout <<x<<" : " <<y<<" : " <<:: x;
}

```

h) Look at the following code and find the possible output(s) from the option (i) to (iv) following it. Also, write the maximum values that can be assigned to each of the variables N and H.

(2)

```

void main()
{
    randomize ();
    int N = random(3), M = random (4);
    int DOCK [3][3] = {{1,2,3}, {2,3,4}, {3,4,5}};
    for (int R=0; R<N; R++)
    {
        for (int c=0; c<M; c++)
            cout<<DOCK[R][c]<<" " <<";
        cout<< endl;
    }
}

```

|       |       |
|-------|-------|
| (i)   | (ii)  |
| 1 2 3 | 1 2 3 |
| 2 3 4 | 2 3 4 |
| 3 4 5 |       |
| (iii) | (iv)  |
| 1 2   | 1 2   |
| 2 3   | 2 3   |
|       | 3 4   |



2. a) Explain Polymorphism in context of Object Oriented Programming. Also give a supporting example in C++. (2)
- b) Which function(s) out of the following can be considered as overloaded function(s) in the same program? Also, write the reason for not considering the other(s) as overloaded function(s). (2)
- ```
void Execute (char A, int B); // function 1
void Execute (int A, char B); // function 2
void Execute (int P =10); // function 3
void Execute ( ); // function 4
int Execute (int A); // function 5
void Execute (int &K); // function 6
```
- c) What do you understand by Data Encapsulation and Data Hiding? Also given an example in C++ to illustrate both. (2)
- d) What is the difference between Object Oriented Programming and Procedural Programming? (2)
3. a) Write the output of the following C++ program code : (3)

```
class Eval
{
    char Level;
    int Point;
public :
    Eval () { Level = 'E'; Point = 0;}
    void sink (int L)
    {
        Level -= L;
    }
    void Float (int L)
    {
        Level += L;
        Point ++ ;
    }
    void show ()
    {
        cout<<Level<<" # " <<Point<<endl;
    }
};

void main ()
{
    Eval E;
    E. sink (3);
    E. show ( );
    E. Float (7);
    E. show ( );
    E. sink (2);
    E. show ( );
}
```

- b) Define a class in C++ with the following description. Also write main function to execute member functions of class. (5)

Private members

- Code string
- Type string
- Size integer
- Material string
- Price float

- A function Calc\_Price() which calculates and assigns the value of price as follows :  
For the value of Material as "COTTON"

| Type    | Price (₹) |
|---------|-----------|
| TROUSER | 1500      |
| SHIRT   | 1200      |

For material other than "COTTON" the above mentioned price gets reduced by 25%.

Public Members :

- A constructor to assign initial values of code, Type and Material with the word "NOT ASSIGNED" and size and price with 0
  - A function Enter() to input the values of the data members Code, Type, Size and Material and invoke the Calc\_Price() function.
  - A function show () which displays the content of all the data members for a clothing.
4. a) What is a copy constructor? Give a suitable example in C++ to illustrate with its definition within a class and a declaration of an object with the help of it. (2)
- b) Observe the following C++ code and answer the questions (i) and (ii) : (2)

```
class Passenger
{ long PNR;
  char Name [20];
public :
  passanger () // function 1
  { cout<<"Ready" << endl; }
  void Book (long P, char N [ ] ) // function 2
  { PNR = P; strcpy (Name, N); }
  void Print ( ) // function 3
  { cout<<PNR<<Name<< endl; }
  ~ Passenger () // function 4
  { cout<< "Booking cancelled" <<endl; }
};
```

- (i) Fill in the blank statements in Line 1 and Line 2 to execute Function 2 and Function 3 respectively in the following code :

```
void main ()
{ Passenger P;
  _____ // Line 1
  _____ // Line 2
} // Ends here.
```

- (ii) Which function will be executed at } // Ends here? What is this function referred as?  
(OR)

- b) Differentiate between Constructor and Destructor function with respect to object oriented programming. (2)
5. a) Differentiate between Private and protected visibility modes in context of inheritance giving a suitable example illustrating each. (2)
- (OR)
- a) What is "containership"? How is it different from inheritance? Explain with example. (2)
- b) Answer the questions (i) to (vi) based on the following : (6)

```
class First
{ int x1;
protected :
  float x2;
public :
  First ();
  void Enter 1 (); void Display1 ();
};
```



```

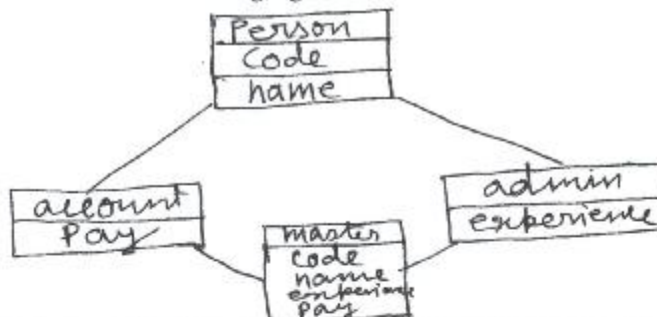
class Second : private First
{
    int y1;
    protected :
    float y2;
    public :
    Second ();
    void Enter 2 (); void Display2 ();
};
class Third : public Second
{
    int z1;
    public :
    Third ();
    void Enter 3(); void Display 3 ();
};
void main ()
{
    Third T;           // Statement 1
    _____;     // statement 2
}
    
```

- (i) Which type of inheritance is illustrated in the above example.
- (ii) Write the names of all the member functions, which are directly accessible by the object T of class Third.
- (iii) Write the names of all the data member accessible by the member function of class Third.
- (iv) Write statement 2 to call function Display 2 () from the object T of class Third.
- (v) What will be the order of execution of the constructor, when the object T of class Third is declared inside main ()?
- (vi) What will be the size of an object T (in bytes) of class Third.

(OR)

b) Consider a class network of the following figure :

(6)



The class master derives information from both account and admin classes which in turn derive information from the class person. Define all the four classes and write a program to create and display the information contained in master objects.

- 6. a) A text file named "MATTER.TXT" contains some text, which needs to be displayed such that every next character is separated by a symbol #. Write a function definition for HashDisplay () in C++ that would display the entire content of the file MATTER.TXT in the desired format.

(3)

Example :

If the file MATTER.TXT contains

THE WORLD IS ROUND

The function should display

T#H#E# #W#O#R#L#D# I#S# R#O#U#N#D

(OR)

- a) A text file named "MESSAGE.TXT" contains some text. Write a user defined function LongToshort() in C++ that would store only the first 150 character from MESSAGE.TXT to another text file name SMS.TXT.

(3)

- b) A text file named "CONTENTS.TXT" contains some text. Write a user defined function LongWords() in C++ which displays all such words of the file whose length is more than 9 alphabets.

(3)

Example :

If CONTENTS.TXT contains

"Conditional statements of C++"

Then the function should displays the output as : conditional statements.

(OR)

- b) Neha has used a text editing software to type some text in an article. After saving the article as MYNOTES.TXT, she realized that she has wrongly typed alphabet 'K' in place of alphabet 'C' everywhere.

Write a function PURETEXT() in C++ that would display the corrected version i.e. replace every 'K' with 'C' example.

If MYNOTES.TXT contains

I OWN A KUTE LITTLE KAR

The function should display

I OWN A CUTE LITTLE CAR

- c) Write a definition for function COUNTPICS() in C++ to read each objects of a binary file PHOTOS.DAT, find and display the total number of PHOTOS of type PORTRAIT. Assume that the file PHOTOS.DAT is created with the help of objects of class PHOTOS which is defined below :

```
class PHOTOS
{ int PCODE; char PTYPE[20];
public :
void ENTER()
{ cin>> PCODE; gets(PTYPE); }
void SHOWCASE()
{ cout<<PCODE<<" "<<PTYPE<<endl; }
Char*GETPTYPE() { return PTYPE;}
};
```

(2)

(OR)

- c) Write a user defined function Total\_Price () in C++ to read each object of a binary file STOCK.DAT, and displays the Name from all such records whose price is above 150. Assume that the file STOCK.DAT is created with the help of objects of class stock, which is defined below.

```
class stock
{ char Name [20]; float price;
public :
char* RName() {return Name;}
float RPRICE () {return Price;}
};
```

- d) A binary file "DOCTORS.DAT" contains records stored as objects of the following class.

```
class Doctor
{ int DNo; char Name[20]; float Fees;
public :
int *GetNo() {return DNo;}
void show()
{ cout<<DNo<<"*"<<Name<<"*"<<Fees<<endl; }
};
```

(2)

Write definition for function Details (int N) in C++ which displays the details of the Doctor from the file DOCTORS.DAT, whose DNo matches with the parameter N passed to the function.

(OR)

- d) Write a definition for a function TotalTeachers () in C++ to read each object of a binary file SCHOOLS.DAT find the total number of teachers, whose data is stored in the file and display the same. Assume that the file SCHOOLS.DAT is created with the help of objects of class SCHOOL, which is defined below

```
class SCHOOL
{ int SCode;
char SName[20];
int NOT;
```



```
public :
void Display ()
{cout<< Scode<<"#"<<SName<<"#"<<Not<<endl;}
int RNOT() {return NOT;}
};
```

- e) Find the output of the following C++ code considering that the binary file CLIENTS.DAT exists on the hard disk with a data of 200 clients. (1)

```
class CLIENTS
{ int ccode; char cName [20];
public :
void REGISTER(); void DISPLAY();
};
void main()
{ fstream File;
File.open ("CLIENTS.DAT", ios :: binary | ios :: in);
CLIENTS C;
File.seekg(6*sizeof (C));
File.read((char*)&C, sizeof (C));
cout<<"Client Number : "<< File.tellg()/sizeof (C) +1;
File.seekg (0, ios :: end);
cout<< "of"<< File.tellg()/sizeof (C) << endl;
File.close ();
}
```

(OR)

- e) Differentiate between ios :: out and ios :: app. (1)  
 f) Find the output of the following c++ code considering that the binary file STOCK.DAT exists on the hard disk with the following 5 records for the class STOCK containing Name and Price. (1)

| Name   | Price (₹) |
|--------|-----------|
| Rice   | 110       |
| Wheat  | 60        |
| Cheese | 200       |
| Pulses | 170       |
| Sauce  | 150       |

```
void main()
{ fstream File;
File.open ("STOCK.DAT", ios :: binary | ios :: in);
STOCK S;
for (int I=1; I<2; I++)
{ File.seekg(2*I-1)*sizeof (S));
File.read((char*)&S, sizeof (S));
cout<<"Read : "<< File.tellg()/sizeof (S) <<endl;
}
File.close ();
}
```

(OR)

- f) Differentiate between seekg() and tellg(). (1)

7. a) Observe the following table VIDEO and MEMBER carefully and write the names of RDBMS operation, which has been used to produce the output as shown below. Also, find the Degree and Cardinality of the FINAL RESULT. (2)

**TABLE : VIDEO**

| VNO   | VNAME | TYPE    |
|-------|-------|---------|
| F 101 | XYZ   | Fiction |
| C101  | PQR   | Comedy  |

**TABLE : MEMBER**

| MNO  | MNAME |
|------|-------|
| M101 | ABC   |
| M102 | DEF   |

**TABLE : FINAL RESULT**

| VNO  | VNAME | TYPE    | MNO  | MNAME |
|------|-------|---------|------|-------|
| F101 | XYZ   | Fiction | M101 | ABC   |
| F101 | XYZ   | Fiction | M102 | DEF   |
| C101 | PQR   | Comedy  | M101 | ABC   |
| C101 | PQR   | Comedy  | M102 | DEF   |

- b) What is (i) Primary Key (ii) Candidate Key. Explain with example. (2)  
 c) Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the table. (8)

**TABLE : DVD**

| DCODE | DTITLE            | DTYPE     |
|-------|-------------------|-----------|
| F101  | Henry Martin      | Folk      |
| C102  | Dhrupad           | Classical |
| C101  | The Planets       | Classical |
| F102  | Universal Soldier | Folk      |
| R102  | A day in life     | Rock      |

**TABLE : MEMBER**

| MID | NAME        | DCODE | ISSUEDATE  |
|-----|-------------|-------|------------|
| 101 | AGAM SINGH  | R102  | 2017-11-30 |
| 103 | ARTH JOSEPH | F102  | 2016-12-13 |
| 102 | NISHA HANS  | C101  | 2017-07-24 |

- i) To display all the details from the table MEMBER in descending order of ISSUEDATE.  
 ii) To display the DCODE and DTITLE of all Folk Type DVDs from the table DVD.  
 iii) To display the DTYPE and number of DVDs in each DTYPE from the table DVD.  
 iv) To display all NAME and ISSUEDATE of those members from the table MEMBER who have DVDs issued in the year of 2017  
 v) SELECT MIN(ISSUEDATE) FROM MEMBER;  
 vi) SELECT DISTINCT DTYPE FROM DVD;  
 vii) SELECT D.DCODE, NAME, DTITLE FROM DVD D, MEMBER M WHERE D.DCODE=M.DCODE;  
 viii) SELECT DTITLE FROM DVD WHERE DTYPE NOT IN ("Folk", "Classical");





DELHI PUBLIC SCHOOL, BHILAI (C.G.)  
FIRST TERM EXAMINATION-2019

Informatics Practices

Time: 3 Hrs.

Class: XII

Max. Marks: 70

General Instructions:

1. All questions are compulsory.
2. Answer the questions after carefully reading the text.
3. Question number 2, 4, & 6 have internal choices.

1. (a) Shiksha Academy is planning to connect all computers, each spread over distance within 50m. Suggest an economical cable type having high speed data transfer which can be used to connect these computers. (1)  
(b) What is the purpose of switch in a network? (1)  
(c) How is Firewall useful in ensuring network security? (1)  
(d) Given the following MAC address, can you identify its parts? (2)  
00:A3:03:51:0E:AC  
(e) Expand the given terms: JVM, PHP (2)  
(f) What do you understand by TTG and OTF? (2)  
(g) Distinguish between Open Source Software and Proprietary Software. (2)

2. (a) What will be the value of  $y$  after execution of the following code: (1)

```
int x, y = 0;
for (x = 1; x <= 5; x++)
    y = x++;
--y;
```

- (b) Rewrite the following programme code using a switch statement: (2)

```
String CAT1;
int CAT2=integer.parseInt(tf1.getText());
if (CAT2 == 1)
    CAT1 = "SMALL";
else if (CAT2 == 2)
    CAT1 = "MEDIUM";
else if (CAT2 == 3)
    CAT1 = "BIG";
else
    CAT1 = "Incorrect";
```

OR

Rewrite the following program code using for loop:

```
int L = 1, Sum = 0;
while (i <= 100)
{
    sum = sum+i;
    i = i + 3;
}
```

- (c) What is casting? When do you need it? (2)

OR

Write Java code to assign the value 90 to a variable A then decrease the value of A by 20 and store in a variable B.

- (d) Write Java code to display the given output on console using nested for/while loops: (2)

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

- (e) Write JAVA code to print all odd numbers till 100 using for loop. (2)
- (f) Write one advantages and one disadvantages of switch statement. (1)
3. (a) What is the difference between setVisible() and setEnabled() methods? (2)
- (b) Which property of ListBox is used to display values in the list? (1)
- (c) Zenith Public School has computerised its registration for class XI students. The data entry GUI is as shown below:

- (i) In click of a initial button, both the text fields tf1 and tf2 become editable. (2)
- (ii) On clicking the clear button, tf1, tf2, tf3 and check box should be cleared/reset. (2)
- (iii) On clicking the calculate button, total fees will be displayed. (2)

| Criteria for Fee |           |
|------------------|-----------|
| Stream           | Fee (Rs.) |
| Commerce         | 3200      |
| Arts             | 2500      |
| Science          | 3900      |
| Medical          | 4200      |

If the student has opted for Computer Science, Rs. 900 will be added to the total fees.

- (iv) On click of Exit button, Application should be closed. (1)
4. (a) Explain the use of the following JAVA functions with example.  
concat(), charAt()  
**OR**  
substring(), trim() (2)
- (b) Write the output of the following JAVA statements: (2)  
System.out.println (math.abs(-2.5));  
System.out.println (math.round(3.6))
- (c) What is the difference between a "TextField" and a "TextArea"? (2)
- (d) What is the difference between a ComboBox and Listbox? (2)
- OR**
- Give one example of valueOf() method.
- (e) Explain the use of any two methods of TextArea control other than getText() and setText(). (2)
5. (a) Explain the terms: (4)  
Degree, Domain, Tuple, Cardinality
- (b) Write any two commands of DML & DDL each. (2)
- (c) Differentiate between CHAR and VARCHAR datatypes. (2)
- (d) How Primary Key is different from Unique? Explain. (2)
6. (a) Explain the uses of the following SQL functions: (3)  
CHAR(), MID(), LENGTH()  
**OR**  
SUBSTR(), RTRIM(), INSTR()



(b) Write the output of the following MySQL commands: (4)

- (i) Select sysdate(); (ii) Select dayofyear(curdate());  
(iii) Select dayname(now()); (iv) Select month('2019-09-10');

(c) Explain the use of the following functions of SQL: (3)

- MOD(); SIGN(); ROUND();  
SQRT(); POW(); **OR** TRUNCATE();

7. (a) Distinguish between Single Row and Aggregate functions of MySQL. Write one example of each. (2)

**OR**

A table "TRAIN" in a database has degree 3 and cardinality 8. How many rows and columns are there in a table TRAIN?

(b) Consider the following table "SOFTDRINK". Write SQL commands for (i) to (vi) and output for (vii) to (x). (8)

Table: SOFTDRINK

| CODE | DNAME         | PRICE | CALORIES |
|------|---------------|-------|----------|
| 101  | Lime & Lemon  | 30.00 | 130      |
| 102  | Apple Drink   | 60.00 | 140      |
| 103  | Nature Nector | 75.00 | 120      |
| 104  | Green Mango   | 45.00 | 100      |
| 105  | Aam Pana      | 20.00 | 135      |
| 106  | Mango Juice   | 18.00 | 125      |

- (i) To display the details of those drinks that have more than 120 calories.  
(ii) To display name and price of all drinks in descending order of calories.  
(iii) Increase the price of all drinks by 15%.  
(iv) Insert a new record as: {107, Pineapple, 25, 139}  
(v) To add new column DOM as data type data.  
(vi) To remove newly added record (Pineapple).  
(vii) Select count(\*) from SOFTDRINK  
(viii) Select max(calories) from SOFTDRINK

**OR**

Describe SOFTDRINK;

- (ix) Select dname from SOFTDRINK where DNAME like "%Mango%"  
(x) Select sum(calories) from SOFTDRINK

**OR**

Select dname, price as "UNIT PRICE" from SFOTDRINK order by price.

\* \* \* \* \*



# DELHI PUBLIC SCHOOL, BHILAI

Date : 03.09.2019  
Class – XII

FIRST TERM EXAMINATION, 2019  
SUBJECT – GENERAL KNOWLEDGE

Time : 50 Min.  
M.M. 50

Name : \_\_\_\_\_ Roll No. : \_\_\_\_\_ Class & Section \_\_\_\_\_

Invigilator's Signature \_\_\_\_\_

Note : All the questions are compulsory.  
Each question carries 1 mark.

- 01 According to the Union Government, Jammu and Kashmir and Ladakh will finally be converted from states to Union Territories on which date?  
(a) 31 October 2019 (b) 30 October 2019 (c) 30 September, 2019 (d) 1 November, 2019
- 02 V.G. Siddharth Hedge was the founder of which coffee chain in India?  
(a) Barista (b) Café Coffee Day (c) Starbucks Coffee (d) Costa Coffee
- 03 The 52 Asean Foreign Ministers Meeting from 30 July to 3 August 2019 was hosted in which city?  
(a) Bangkok (b) New Delhi (c) Colombo (d) Thimphu
- 04 Who was the woman Chief Minister of Delhi from 12 October 1998 to 3 December 1998?  
(a) Sucheta Kriplani (b) Sheila Dixit (c) Sushma Swaraj (d) Rajinder Kaur Bhattal
- 05 The Cabinet Committee on Economics Affairs is headed by whom among the following –  
(a) Finance Minister (b) Commerce Minister (c) Prime Minister (d) Cabinet Secretary
- 06 Which of the following National Parks is not a UNESCO World Heritage Site ?  
(a) Kaziranga (b) Keoladeo (c) Sunderbans (d) Kanha
- 07 For which of the following are Kiriburu Meghahatuburu mines famous?  
(a) Limestone (b) Iron Ore (c) Magnesite (d) Silica Sand
- 08 What fraction of the total area of Rajasthan is covered by the Thar Desert?  
(a) around 30% (b) around 50% (c) around 60% (d) around 75%
- 09 Which one is the correct chronological order of the following events?  
(I) Quit India Movement (II) Simla Conference (III) Poona Pact (IV) Cabinet Mission  
(a) III, IV, II, I (b) II, IV, I, III (c) IV, II, III, I (d) III, I, II, IV
- 10 Who among the following was not among the 9 gems (Navratna) of King Vikramaditya's Court?  
(a) Vetalbhatt (b) Amar Sinha (c) Kaalidasa (d) Aryabhata
- 11 Where was the first engineering college of India located?  
(a) Mumbai (b) Roorkee (c) Varanasi (d) Kolkata
- 12 The deepest point of water, on earth – Marianas Trench, is located in which of the following oceans?  
(a) Arctic Ocean (b) Atlantic Ocean (c) Indian Ocean (d) Pacific Ocean
- 13 Which river was called Vipasa in Vedic literature?  
(a) Ganga (b) Jhelum (c) Beas (d) Indus
- 14 What is the minimum age for becoming a Governor of State, in India?  
(a) 30 Years (b) 25 Years (c) 45 Years (d) 35 Years
- 15 Lokmanya Tilak Award is given in which of the following fields?  
(a) Fiction Writing (b) Sanskrit Literature (c) Journalism (d) Film Critics Writing
- 16 Isarda Dam project is being implemented in the state of -  
(a) Andhra Pradesh (b) Gujrat (c) Rajasthan (d) Jharkhand
- 17 On a rainy day, small oil films on water show brilliant colours. This is due to -  
(a) dispersion (b) interference (c) diffraction (d) polarization
- 18 The property of a substance to absorb moisture from the air on exposure is called –  
(a) osmosis (b) deliquescence (c) efflorescence (d) dessication
- 19 Permanent hardness of water may be removed by the addition of -  
(a) sodium carbonate (b) alum (c) potassium permanganate (d) lime
- 20 The first woman President of Nepal is -  
(a) Bidhya Bhandari (b) Gina Haspal (c) Samal Yeslyamora (d) Saoirse Rohan
- 21 IELTS stands for-  
(a) International English Language Testing System (b) International Excellent Language Teaching Standard  
(c) International English Learning Teaching System (d) International English Language Teaching System
- 22 BEE is an acronym for-  
(a) Build Energy Excellence (b) Bureau of Environment Exploration  
(c) Bureau of Electrical Exploratin (d) Bureau of Energy Efficiency



- 23 UNFCC is an abbreviation for  
 (a) United Nations Framework Convention on Climate Change (b) United Nations Fund for Climate Change  
 (c) United Nations Fund for Carbon Cleaning (d) United Nations Framework for Cleaning and Change
- 24 Long Walk to Freedom was written by –  
 (a) Nelson Mandela (b) Mahatma Gandhi (c) Lal Bahadur Shastri (d) Kofi Annan
- 25 My music, my life has been written by –  
 (a) Zakir Hussain (b) Anoushka Shankar (c) Norah Jones (d) Pt. Ravi Shankar
- 26 Krishnattam is a dance folk theatre form of Kerala comprising a series of \_\_\_\_\_ plays  
 (a) 9 (b) 8 (c) 7 (d) 6
- 27 Warli – a folk painting style belongs to a tribe in –  
 (a) Chhattisgarh (b) Goa (c) Tamil Nadu (d) Maharashtra
- 28 Michael Phelps – the American swimmer holds the record of winning the maximum number of gold medals at a single Olympics – in Beijing  
 (a) 8 (b) 9 (c) 7 (d) 11
- 29 The inaugural session of Khelo India School Games (2018) now known as Khelo India Youth Games was held at –  
 (a) Pune (b) Assam (c) New Delhi (d) Chennai
- 30 Hook Pass – this terminology belongs to which sport?  
 (a) Basketball (b) Volleyball (c) Lawn Tennis (d) Badminton
- 31 If 20% of a = b, then b% of 20 is the same as –  
 (a) 6% of a (b) 8% of a (c) 4% of a (d) 10% of a
- 32 How many times do the hands of a clock coincide everyday?  
 (a) 24 (b) 22 (c) 23 (d) 21
- 33 A, B and C can do a piece of work in 10, 20, 40 days respectively. In how many days can A complete the piece of work if he is assisted by B and C every third day?  
 (a) 8 days (b) 7 days (c) 9 days (d) 6 days
- 34 The sum of the first thirty five natural numbers is –  
 (a) 610 (b) 630 (c) 645 (d) 660
- 35 A bag contains 6 white and 4 black balls. Two balls are drawn at random. Find the probability that they are of the same colour.  
 (a)  $\frac{1}{2}$  (b)  $\frac{7}{15}$  (c)  $\frac{8}{15}$  (d)  $\frac{1}{9}$
- 36 In a garden, the ratio of the number of coconut trees to that of mango trees is 5:6 respectively. If the total number of trees is 121, how many coconut trees are there in the garden?  
 (a) 50 (b) 45 (c) 56 (d) 55
- 37 The PH of blood is –  
 (a) 10.4 (b) 9 (c) 7.4 (d) 4
- 38 Water drops are spherical because of –  
 (a) viscosity (b) density (c) polarity (d) surface tension
- 39 Which among the following is used to produce artificial rain?  
 (a) copper oxide (b) carbon monoxide (c) silver iodide (d) silver nitrate
- 40 Plants synthesize protein from  
 (a) starch (b) sugar (c) amino acids (d) fatty acids
- 41 Lac is the scarlet resinous secretion from –  
 (a) herbs (b) trees (c) bark (d) insects
- 42 In which form is the work done in stretching a wire –  
 (a) kinetic energy (b) potential energy (c) heat energy (d) electrical energy
- 43 Insects that can transmit diseases to humans are referred to as –  
 (a) carriers (b) reservoirs (c) vectors (d) incubators
- 44 The word physics comes from the Greek word -  
 (a) Phiji (b) Fuis (c) Phusik (d) None of the above
- 45 A ball point pen functions on the principle of -  
 (a) viscosity (b) capillarity (c) gravity (d) atmospheric pressure
- 46 Eklama iron ore complex is situated in which of the following districts of Chhattisgarh?  
 (a) Rajnandgaon (b) Kabirdham (c) Bastar (d) Jashpur
- 47 Which place is known as the 'Prayag' of Chhattisgarh?  
 (a) Mahasamund (b) Jagdalpur (c) Chirimiri (d) Rajim
- 48 The Teerathgarh waterfall is on the river –  
 (a) Narmada (b) Hasdeo (c) Mahanadi (d) Kanger
- 49 Which of the following, are the new districts created after the bifurcation of Bastar ?  
 (a) Mahasamund and Dhamtari (b) Kanker and Dantewara (c) Kanker and Dhamtari (d) Kanker and Bastar
- 50 By which name was the region of Chhattisgarh known, in ancient times?  
 (a) Kalinga (b) Ujjaini (c) Dakshin Kosala (d) None of these



# DELHI PUBLIC SCHOOL, BHILAI

Date : 11.09.2019  
Class – XII

FIRST-TERM EXAMINATION, 2019  
SUBJECT – ENGINEERING GRAPHICS

Time : 3 Hrs.  
M.M. 70

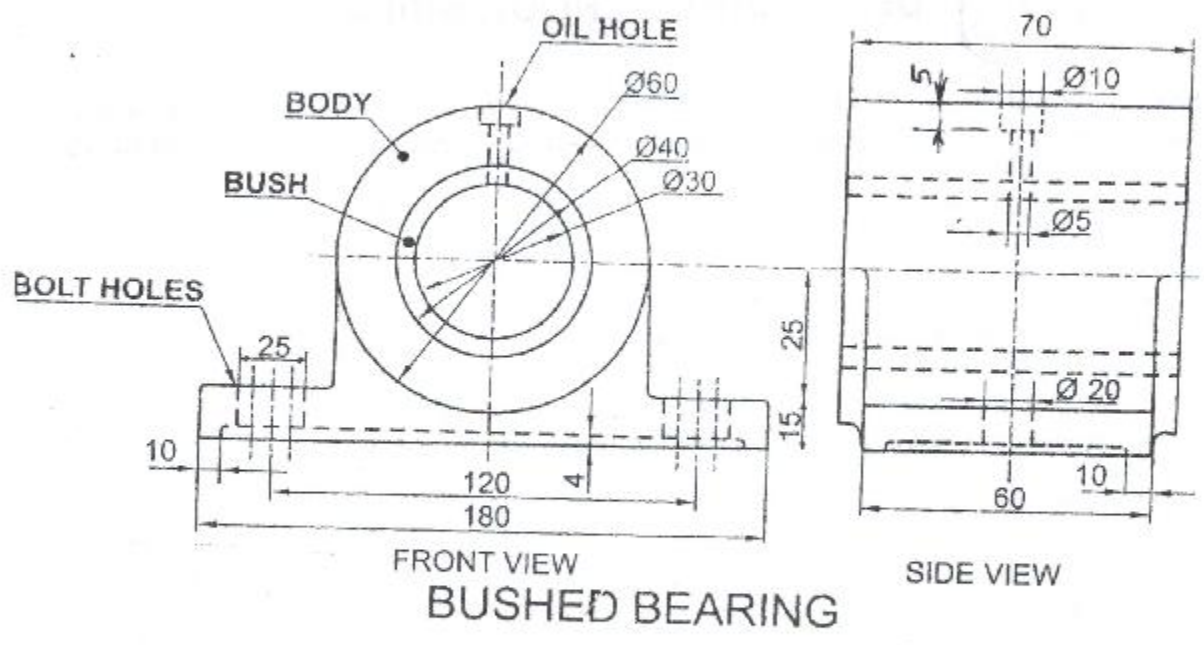
## GENERAL INSTRUCTIONS

- i. Attempt all questions. Give your answer according to question.
- ii. Internal choice is given in some questions.
- iii. Use both side of drawing sheet if necessary.
- iv. All dimensions are in mm.
- v. Missing and mismatching dimension if any may be suitably assumed.
- vi. Follow the SP: 46-2003 revised codes with first angle method of projection.

- Q.01. Answer the following multiple choice questions. (05)**
- (i) The truncated lower portion of a pyramid is called  
(a) Prism (b) Frustum (c) Cube (d) Cone
  - (ii) In a single riveted lap joint, the plates to be joined are  
(a) in contact with each other at the ends (b) overlapping each other  
(c) Inclined to each other (d) Kept at a distance of 10 mm from each other
  - (iii) The angle between the flanks of a metric thread is  
(a)  $55^\circ$  (b)  $90^\circ$  (c)  $60^\circ$  (d)  $75^\circ$
  - (iv) which one among the following represents a permanent fastener?  
(a) Nut (b) Rivet (c) screw (d) Bolt
  - (v) In isometric projection, the four centre method is used to construct  
(a) an ellipse (b) an involute (c) a parabola (d) a hyperbola
- Q.02.(a) Construct an isometric scale which can convert length upto 100 mm. (04)**
- (b) Draw the isometric projection of an inverted triangular pyramid of base side 50 mm and axis 80 mm, keeping one of its base side parallel to V.P. and nearer to the observer. (07)**
- (c) A pentagonal prism (side = 25 mm, axis = 50 mm) is resting centrally upon a hexagonal slab (side = 45, height = 25mm). base of both the solids are in contact with each other and rectangular faces of hexagonal slab are parallel to V.P. Draw isometric projection of combination if rectangular face of pentagonal prism is parallel to and near to V.P. (13)**
- Q.03.(a) Draw to scale 1:1, the standard profile of B.S.W. thread (External) with the enlarged pitch = 50mm. Give standard dimensions. (08)**
- OR**
- Draw to scale 1:1, the front view and side view of a Tee headed bolt with diameter 25mm, keeping its axis parallel to both H.P. & V.P. Give standard dimensions. (08)
- (b) Draw to scale 1:1, the front view and top view of a square nut with diameter 25mm, faces equally inclined to V.P. (across corners), keeping its axis perpendicular to H.P. Give standard dimensions. (05)**
- OR**
- Draw to scale 1:1, the front view and top view of a hexagonal nut diameter 25mm, keeping its axis perpendicular to H.P. and two of its parallel faces are perpendicular to V.P. Give standard dimensions. (05)
- Q.04 Figure shows the assembly of a bushed bearing. Disassemble the parts correctly and draw to scale 1:1 the following**
- (i) Body, The front view, right half in section & top view. (14)**
  - (ii) Bush, The front view, left half in section & top view. (06)**
  - (iii) Give 6 important dimensions .Print title, Projection symbol and scale used. (08)**









# DELHI PUBLIC SCHOOL, BHILAI

Date : 11.09.2019  
Class – XII

FIRST-TERM EXAMINATION, 2019  
SUBJECT – BIOLOGY

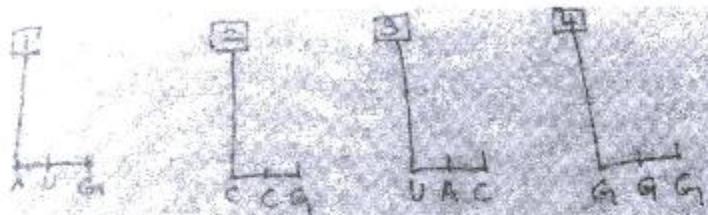
Time : 3 hrs.  
M.M. 70

### GENERAL INSTRUCTIONS :

- All questions are compulsory.
- The question paper consists of four sections A, B, C and D. A student has to attempt only one of the alternatives in such questions.
- Internal choice is given in all the sections. A student has to attempt only one of the alternatives in such questions.
- Section – A contains 5 questions of 1 mark each.
- Section – B has 7 questions of 2 marks each.
- Section – C is of 12 questions of 3 marks each.
- Section – D has 3 questions of 5 marks each.
- Wherever necessary, the diagrams drawn should be neat and properly labelled.

### SECTION – A

- Q.01 Which of the following is a conformer with respect to homeostasis? Why? (01)  
Tiger, Whale, Dog, Shark
- Q.02 Write one major difference between budding and fission. (01)
- Q.03 Correct the following statement: (01)  
'Surgical methods of contraception prevent gamete formation'.
- Q.04 What is toddy? (01)  
OR  
What are prions?
- Q.05 Find the sequence of binding of the following aminoacyl tRNA complexes during translation to a mRNA transcribed by a DNA segment having the base sequence 3'TACATGGGTCCG5'. 1,2,3,4 are the aminoacids on the four tRNA molecules. (01)

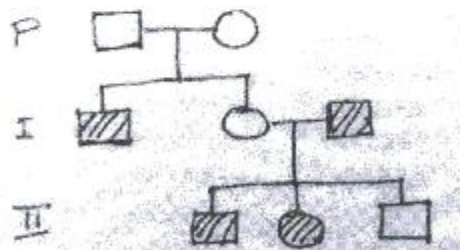


OR

What is a satellite DNA? Which of the two codes for proteins repetitive DNA or satellite DNA?

### SECTION – B

- Q.06 Observe the pedigree given below: (02)



Contd...2



Answer the following questions with reference to the above pedigree.

- (a) Is the trait sex linked or autosomal (dominant/recessive). Justify your answer.
- (b) Give the genotype of the parents.
- (c) Write the genotype of the daughter in the first generation and that of the second son in the second generation.

OR

Linkage and crossing over of genes are alternatives of each other. Justify with the help of an example.

**Q.07** Mention the role of ribosomes in peptide bonds formation. How does ATP facilitate it? (02)

**Q.08** Describe the endosperm development in coconut. (02)

**Q.09** Construct an age pyramid which reflects a stable growth status of human population. (02)

OR

What is resource partitioning? Give an example.

**Q.10** 'Intra-cytoplasmic sperm injection' and 'gamete intra fallopian transfer' are two ARTS. How is one different from the other? (02)

**Q.11** Distinguish between the roles of flocs and anaerobic sludge digesters in sewage treatment. (02)

**Q.12** How does the ozone-hole formation occur over Antarctica? (02)

**SECTION – C**

**Q.13** With the help of a flow chart, show the events of eutrophication of a Lake. (03)

**Q.14** Why is DNA a better genetic material when compared to RNA? (03)

OR

It is established that RNA is the first genetic material. Explain giving three reasons.

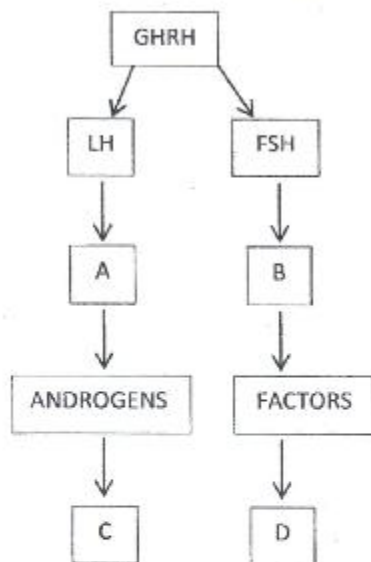
**Q.15** Explain the defence mechanisms evolved in preys to avoid overpopulation of their predators. (03)

**Q.16** Describe the process of parturition. (03)

OR

Draw a well labelled diagram of the human sperm. Label the parts.

**Q.17 (a)** Identify A,B,C and D with reference to gametogenesis in humans in the flow chart given below: (03)



**(b)** Not all copulations lead to pregnancy. Give reason:

**Q.18** In pea plants, the colour of the flower is either violet or white, whereas human skin colour shows many gradations. Explain giving reasons, how it is possible? (03)

- Q.19 (a)** Mention the type of allele which expresses itself only in homozygous condition in an organism.  
**(b)** In a typical monohybrid cross, the F<sub>2</sub> population ratio is written as 3:1 for phenotype, but expressed as 1:2:1 for genotype. Explain with the help of an example.

**OR** **(03)**

Mendel published his work on inheritance of characters in 1865, but it remained unrecognised till 1900. Give three reasons for the delay in accepting his work.

- Q.20 (a)** Compare the merits and demerits of using oral pills. **(03)**  
**(b)** Copper Loop can provide protection against pregnancy. Justify the use explaining the mode of action of IUDs.

- Q.21 (a)** Name the organisms that reproduce through conidia and zoospores. **(03)**  
**(b)** Mention one similarity and one difference between these two reproductive structures.

- Q.22** Explain three outbreeding devices developed by flowering plants. **(03)**

- Q.23** What will be the advantage of making the hybrids into apomicts? Why? **(03)**

**OR**

Draw an enlarged view of one micro-sporangium of a mature anther. Mention the function and characteristics of the innermost layer surrounding, MMC

- Q.24 Differentiate between** **(03)**  
**(a)** Primary follicle and secondary follicle.  
**(b)** Secondary follicle and tertiary follicle.  
**(c)** Vas deferens and Vasa efferentia

**SECTION – D**

- Q.25 (a)** Explain with the help of a graph, the population growth curve when resources are : limiting and non-limiting.  
**(b)** 'Nature has a carrying capacity for a species'. Explain.

**OR** **(05)**

Describe the functioning of an electrostatic precipitator alongwith a schematic diagram.

- Q.26** Explain the process of transcription in eukaryotes. **(05)**

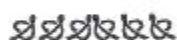
**OR**

Enumerate the salient features of human genome.

- Q.27** Explain the uterine events that take place according to the hormonal levels on (i) 6-15 days  
(ii) 16-25 days (iii) 26-28 days (if the ovum is not fertilized.)

**OR** **(05)**

- (a)** Draw a diagram of an angiospermic embryo sac, where fertilization is just completed.  
**(b)** Explain the events that occur during pollen-pistil interaction.







15. How will reverse repo rate and open market operations control excess money supply in an economy? (4)  
 16. Explain the process of money creation by the commercial banks with the help of numerical example. (6)

OR

Briefly discuss the following functions of central bank:

(a) Lender of last resort & (b) Banker of government.

17. Calculate National Income by Income and Expenditure Method: (6)

| Particulars                               | ₹ in crores |
|-------------------------------------------|-------------|
| (i) Private Final Consumption Expenditure | 7,000       |
| (ii) Compensation of Employees            | 9,000       |
| (iii) Rent & Interest                     | 2,000       |
| (iv) Govt. Final Consumption Expenditure  | 4,200       |
| (v) Net Domestic Fixed Capital Formation  | 1,700       |
| (vi) Mixed Income                         | 1,000       |
| (vii) Change in Stock                     | 500         |
| (viii) Indirect Taxes                     | 300         |
| (ix) Exports                              | 600         |
| (x) Subsidies                             | 100         |
| (xi) Imports                              | 800         |
| (xii) Consumption of Fixed Capital        | 1,100       |
| (xiii) Factor Income From Abroad          | 800         |
| (xiv) Factor Income to Abroad             | 700         |
| (xv) Royalty and Profit                   | 1,000       |
| (xvi) Dividends                           | 50          |

**SECTION-B (INDIAN ECONOMIC DEVELOPMENT)**

18. The main factor of rural development are: (1)  
 (a) Women empowerment (b) Public health (c) Land reforms (d) All the above
19. Taxes levied on imported goods are called: (1)  
 (a) Tariffs (b) Quotas (c) Lagoon (d) Revenues
20. The land reform measure to solve the problem of fragmentation of holding is \_\_\_\_\_ (1)
21. Schedule 'A' of IPR 1956 included \_\_\_\_\_ industries. (1)
22. What do you mean by occupational structure? (1)
23. The planning commission was constituted in which year? (1)  
 (a) 1947 (b) 1951 (c) 1950 (d) 1960
24. What do you mean by quotas? (1)
25. Why was National Bank for Agricultural and Rural Development set up? (1)
26. Mention one reason for diversification of agriculture. (1)
27. What is organic farming? (1)
28. How did discriminatory tariffs policy help in destroying the domestic Indian industries? (3)

OR

Explain in brief the features of India's foreign trade during the British Rule.

29. Briefly state any three achievements of new economic policy of 1991. (3)
30. Illustrate the difference between rural and urban poverty. Is it correct to say that Poverty has shifted from rural to urban areas? Use the trends in poverty ratio to support your answer. (4)
31. What are the alternative channels available for agricultural marketing? Give some examples. (4)

OR

Trace the relationship between human capital and economic growth.

32. Discuss the measure adopted in New Economic Policy 1991 for deregulation of the industrial sector. (4)
33. (a) What do you mean by modernization and self-reliance as goals of five year plans? (3+3=6)  
 (b) "An equally strong case can be made in favour of and against agricultural subsidies". Do you agree? Give reasons for your answer.
34. Explain the steps taken by the government in developing agricultural market system in India. (6)

OR

Explain the following:

- (i) Three dimensional approach of government to alleviate poverty.  
 (ii) Role of expenditure on migration on human capital formation.

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