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## ENGLISH

Time Allowed : 3 Hrs.
Max. Marks 85

Candidates are required to give their answers in their own words as far as practicable. Marks allotted to each question are indicated against it.

## Special Instructions :-

1. You must write Question Paper Series in the circle at top left side of title page of your Answer-book.
2. While answering your questions, you must indicate on your Answer-book the same question No. as appears in your question paper.
3. Do not leave blank page / pages in your Answer-book.
4. This paper is divided into three sections A, B and C. All the sections are compulsory.
5. Do not exceed word limit wherever prescribed while answering the questions.

## Section-A

Q1. Read the passages given below and answer the questions that follow :
(i) In today's fiercely competitive business environment, companies need to communicate information pertaining to a whole range of issues in a lucid and precise manner to their customers.
(ii) This is particularly so in the case of companies which do business in areas such as manufacturing, information technology (IT), engineering products and services - companies whose product and services may not be understood by a customer not familiar with its technical aspects.
(iii) These communication materials are prepared in a company these days by 'technical writers - people who can effectively communicate to an intended audience.
(iv) The skills of a technical writer are being increasingly sought for preparing marketing documents such as brochures, case studies, website content and media kit and for the preparation of a whole range of manuals. Though technical writers in a company do a good portion of such work, the trend now is to outsource technical writing to free-lancers.
(v) Technical writing and writing text-books are poles apart. The former is aimed at those who do not have an in-depth knowledge about a product and hence should be direct and lucid. An overdose of technical terms and jargon would only add to the confusion of the customer.
(vi) The basic requirement for being a technical writer is near total mastery over English language. A technical writer should be natural in creative writing and needs to be an expert in using Business English.
(vii) This simply means that those with a Bachelor's degree in English Literature alongwith a diploma / degree in Journalism and having a Post-Graduate Diploma in Computer Application (PGDCA) are being employed as technical writers.
(viii) According to Joe Winston, Chief Executive Officer of 'I Manager', speaking ability is not imperative for a technical writer. All that one needs is the talent to write in a simple and effective manner. Many have inhibition in speaking English but not their writing skills would be very sharp.
(ix) Technical writing would be a good option for such people. If a candidate is to be assigned the task of preparing high-end technical manuals, he /she is required to have higher qualifications such as an M.A./M.Phil. in English Literature and a degree such as M.C.A.
(x) Companies look for such qualifications because technical writer first need to understand the technical information themselves, before trying to communicate it in de-jargonised language to the potential customers.
(xi) However, it is also true that many companies provide rigorous on the jobtraining to fresh technical writers before allowing them to graduate to high-end products.
(xii) Though the demand for good technical writers has risen sharply over the years, the emphasis is never on numbers but on skills.
(xiii) Merely having the right mix of writing and comprehension skills is not sufficient. A technical writer should keep his 'writing blades' constantly sharpened. It means untold hours of reading up the latest in the technological trends and ceaseless honing of one's Business English and writing skills. The nature of technical writing is such that a writer has to be at the peak of his expressive powers in each piece of writing he produces.
(xiv) A career in technical writing is seen as a good choice for women mainly because it is widely held that women are more adept at creative writing than men and the job does not entail 'graveyard shifts' or 'arduous travelling'.
(xv) A beginner can expect to be paid anywhere between Rs. 15,000/- a month. Technical writers usually join as executive technical writers and then go on to become senior technical writers, team leaders, documentation heads and some even manage to make it to a management job within a decade. As in most private sector jobs, merit is the main criterion for rise in jobs and not necessarily the number of years one has put in.

Questions :-
(a) Answer the following questions briefly :
(i) What is the need of technical writing in today's world ?
(ii) What is the nature of the job of a technical writer ?
(iii) Whom does the technical writing aim at? 1
(iv) According to Joe Winston, who could be a technical writer ? 1
(v) What should be the academic qualification of a technical writer ?
(vi) Is technical writing a good career for women ? Give two reasons.
(b) Find words from the passage which mean the same as the following :
(i) Clear (Para 1)
(ii) Continuous / without stopping (Para 13)
(iii) difficult (Para 14)

Q2. Read the following passages carefully and answer the questions that follow :
Child labour has been sought in the country since the middle of the 19th century when factories first made an appearance. Since children in most industries provide the same productivity as adults, and in several cases even more, but at a far lower cost, they were soon recognised as a means to lower overheads and increase profits. However, as the industrial revolution progressed, gradually the people became aware of the torture they were subjecting their children to - both mentally and physically. But even as the country continued to progress at various levels, it lagged behind in terms of the wherewithal and prosperity needed to take care of new social relations which had sprung up. With the result that wages for workers were abysmally low and it was difficult for a family to survive on one man's wages. This is when human resources became the only true assets families had and every pair of working hands, including those of children, was engaged in earning a livelihood.

And once child labour had made an appearance in the job market, employers soon began to prefer working children to working adults, for not only could they give the same output as an adult worker at a much lower cost but were also more nimble and agile and more amenable to discipline. Today, child labour has become a vested interest for studies have revealed that child labour intensive areas are also high adult unemployment zone. So it is not as if adult workers are not available. They are available, only the employers prefer children because their high profits depend largely on child labour.

However, it would be unfair to categorise child labour as purely a medium of exploitation abject poverty existing in the country has made it a necessary evil gravitated by the economic compulsions of the parents or guardians. A study conducted revealed that $87 \%$ of the children in villages are forced to work out the economic necessity while another conducted on the urban child labour force disclosed that $88 \%$ of the children came to work due to poverty, $3 \%$ due to neglect parents, $5 \%$ due to sudden death of parents and $4 \%$ due to parental compulsions.

It is indeed lamentable that poverty even compels parents and guardians to barter their children for money. A number of young children are sold by their parents or pledged as bonded labour.
(i) On the basis of your reading of the above passage, make note on it, using recognizable abbreviations where necessary. Make use of a suitable format. Suggest a suitable title to the given passage.
(ii) Write a summary of the passage.

## Section-B

Q3. You are the general manager Brakes and Brakes (India) Ltd. You want to appoint two sales representatives for your company. Give an advertisement to be published in the classified columns of a local daily. (Word limit : 50 words)

Or
You have been successful in I.I.T. Entrance Examination. Write a suitable invitation for your friends inviting them to a get together to celebrate the occasion at your home.

Q4. You are Sanchit / Shristi. The World Book Fair which lasted for a month in your city was the hot topic of all book lovers. Write a report on it in about 125 words for publication in a newspaper.

Or
"Each one plant one" campaign was organised by your school to celebrate Van Mahotsava Day on 10th Nov. As Secretary of your school ABC, write a report in 100-125 words for your school magazine. You are Sunil/ Sunita.

Q5. Write a letter to the Police Commissioner, Jaipur complaining about bad law and order situation in your area.

Or
Write a letter to the Editor of 'The Tribune', Chandigarh about the undesirability of primary school children carrying heavy school bags. Also suggest ways to reduce the load. You are Gita / Govind of Chandigarh. (Word limit : 150 words)

Q6. You are Manoj / Meena. Write an article in 150/200 words, your experience of going to school when suddenly it started raining heavily.

Or
You are Kamal / Kamla. Mobile phones have become a necessity and are seen in the hands of the young and the old alike. Write an article on this, highlighting the crucial role of the mobile phones by way of communication and in promoting business and economy. Also point out the difficulties and dangers in using mobile phones while driving.

## Section-C

Q7. Read the extract and answer the questions that follow :-
Far far from gusty wanes these children's faces, Like rootless weeds, the hair torn round their pallor; The tall girl with her weighed-down head. The Paper seeming boy, with rat's eyes. The stunted, unlucky heir Of twisted bones, reciting a father's gnarled disease, His lesson, from his desk. At back of the dim class One unnoted, sweet and young. His eyes live in a dream, Of squirrel's game, in tree room, other than this.
(i) Name the poem and the poet.
(ii) Who are being described in these lines ?
(iii) Where are the children sitting ?
(iv) Explain "weighed-down head".

Or
Perhaps the Earth can teach us as when everything seems dead and later proves to be alive. Now I'll count up to twelve and you keep quiet and I will go.
(i) Name the poem and the poet.
(ii) What can earth teach us ? How ?
(iii) What does the poet want us to do while he counts up to twelve ?
(iv) What harmful activities of man has the poet referred to in this poem ?

Q8. Answer the following questions in about 30 words each : (Any three)
(i) What is the 'sadness' that the poet refers to in the poem 'Keeping Quiet' ?
(ii) What pleasure does a beautiful thing give us ?
(iii) Have you ever stopped at a road-side stand ? What have you observed there?
(iv) How do 'denizens' and 'chivalric' add to our understanding of the tiger's attitudes?
$(3 \times 2=6)$

Q9. Answer the following questions: (Upto 30 words)
(i) What did the French teacher M. Hamel say about the language ?
(ii) What could be some of the reason for the migration of people from villages to cities?
(iii) Why do you think Gandhi considered the Champaran episode to be a turningpoint of his life ?
(iv) What is the reason for the huge success of the novel "The Name of the Rose"?

Q10. Answer the following questions in about (125-150) words :
'Sophie's dreams and disappointments are all in her mind". Discuss.
Or
What are the instances in the story that show that characters of the iron master is different from that of his daughter in many ways ?

Q11. Answer the following questions in about 125-150 words :
Why is Antarctica the place to go to, to understand the earth's present, past and future?

Or
Dr. Sadao was compelled by his duty as a doctor to help the enemy soldier. What made Hana, his wife sympathetic to him in the face of open defiance from the domestic staff?

Q12. Answer the following questions :
(i) How did the narrator get lost and reach the third lavel ?
(ii) Who is the tiger King ?
(iii) Why does Jack insist that it was the wizard that was hit and not the mother ?
(iv) Who is Mr. Lamb ? How does Derry get into his garden ?
( $4 \times 2=8$ )

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पूर्णांक : 85

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प्र01. निम्नलिखित गद्यांश को पढ़कर नीचे लिखे गए प्रश्नों के उत्तर दीजिए :
समाज में नारियों की र्थिति किसी भी समाज की संस्कृति की नींव पर आधार रखती है। शिक्षित, सुसंस्कृत नारी ही अपने समाज को आगे बढ़ा सकती है। भारत में नारियों की दशा समय-समय पर बदलती रही है। प्राचीन काल में, समाज में उनकी बहुत प्रतिष्ठा थी। समाज में उनको पुरूषों की भान्ति स्थान दे कर उन्हें कल्याणी, अर्द्धांगिनी, गृहलक्ष्मी आदि सुन्दर नामों से विभूषित किया। वे अध्यात्मवादी थीं और उनका लक्ष्य ज्ञान-विज्ञान द्वारा अपने को ऊँचा उठाना था। उनका दाम्पत्य जीवन धर्म और अध्यात्मवाद से ओतप्रोत था। वे वैदिक काल से ऋषियों के आश्रम में रह कर ऊँची-ऊँची शिक्षाएं प्राप्त करती थीं। उन्हें धार्मिक ग्रन्थों की शिक्षा प्राप्त करने का अधिकार समाज द्वारा मान्य था। उनका जीवन स्वतन्त्र था। वे साहित्य, विज्ञान, कला, राजनीति सभी क्षेत्रों में पुरूषों के समकक्ष थीं। परन्तु जैसे-जैसे समय बीतता गया, नारियों की स्थिति खराब होती गई। समाज के ठेकेदारों ने नारियों के अधिकार छीन लिए। अशिक्षित, दुर्बल नारियों ने वधू, विधवा और दासी सत्री के रूप में वर्षों तक घोर अत्याचार सहा। स्त्री अहिंसा की अवतार है। अहिंसा का अर्थ है - असीम प्रेम और असीम प्रेम का अर्थ है - असीम कष्ट सहने की शक्ति। यह शक्ति पुरूष की जननी स्त्री के सिवा अधिक से अधि ाक मात्रा में कौन दिखा सकता है ? संसार भर में सारी स्त्रियां बहनें हैं, माताएं हैं। यह विचार ही मनुष्य को ऊँचा उठाने वाला है और बन्धन से मुक्त करने वाला है।

प्रश्न :- (1) कैसी स्त्रियां समाज को आगे बढ़ा सकती हैं ?
(2) प्राचीन काल में स्त्रियों का क्या स्थान था ?
(3) कौन-कौन से क्षेत्र में स्त्रियां पुरूषों के समान थीं ?
(4) नारियों में कौन सी असीम शक्ति पाई जाती है ?
(5) गद्यांश का उपयुक्त शीर्षक दीजिए।
$\left.11 / 2+1 \frac{1}{2}+1^{11 / 2}+11 / 2+2=8\right)$

प्र02. निम्नलिखित काव्यांश को पढ़कर नीचे लिखे प्रश्नों के उत्तर दीजिए :
शव को दें हम रूप, रंग, आदर मानव का ?
मानव को हम कुत्सित चित्र बना दें शव का ?
गत युग के मृत आदर्शों के ताज मनोहर,
मानव के मोहान्ध हृदय में किए हुए घर।
भूल गए हम जीवन का सन्देश अनश्वर
मृतकों के हैं मृतक, जीवितों का है ईश्वर।
प्रश्न :- (1) कवि ने ताज को किस मानसिकता का स्मारक माना है ?
(2) कवि ने इस काव्यांश में क्या चिन्ता व्यक्त की है ?
(3) कवि ने किस सन्देश को भूलने की बात की है ?
(4) कवि के अनुसार मनुष्य का लक्ष्य क्या है ?
$(2+2+2+2=8)$

प्र03. किसी एक विषय पर सारगर्भित निबन्ध लिखिए :
(क) राष्ट्र भाषा हिन्दी,
(ख) वर्तमान शिक्षा-प्रणाली : गुण एवं दोष,
(ग) हिमाचल के पर्यटक स्थल,
(घ) प्रदूषण की समस्या एवं समाधान,
(ङ) भारत में सूचना-प्रौद्योगिकी : एक युगीन क्रान्ति

प्र04. नगर—निगम के अध्यक्ष को एक शिकायत-पत्र लिखिए, जिसमें शहर में फैलती गन्दगी की समस्या से राहत की मांग की गई हो।

अथवा
अपने छोटे भाई को पत्र लिखिए, जिसमें विद्यालय में मनाए गए वार्षिक पारितोषिक वितरण समारोह का वर्णन किया गया हो।
(5)

प्र05. विभिन्न जनसंचार माध्यमों का सामान्य परिचय देते हुए उनसे जुड़ी पांच-पांच खूबियों एवं खामियों पर प्रकाश डालिए।

अथवा
फ़ीचर क्या है ? उसकी विशेषताएं बतलाते हुए, समाचार और फीचर के बीच अन्तर स्पष्ट कीजिए।

प्र06. कविता से क्या तात्पर्य है ? कविता के प्रमुख घटकों और उनके महत्व पर प्रकाश डालिए। अथवा
कहानी और नाटक का सम्बन्ध बताते हुए स्पष्ट कीजिए कि कहानी को नाटक बनाते समय किन-किन बातों का ध्यान रखना आवश्यक होता है ?

प्र07. निम्नलिखित पद्यांश की सप्रसंग व्याख्या कीजिए :
यह जन है - गाता गीत जिन्हें फिर और कौन गाएगा ?
पनडुब्बा - ये मोती सच्चे फिर कौन कृती लाएगा ?
यह समिधा - ऐसी आग हठीला बिरला सुलगाएगा।
यह अद्वितीय - यह मेरा - यह मैं स्वयं विसर्जित यह दीप, अकेला, स्नेह भरा
है गर्व भरा मदमाता, पर इसको भी पंक्ति को दे दो। अथवा

अगहन देवस घटा निसि बाढ़ी। दूभर दुख जो जाइ किमि काढ़ी।।
अब घनि देवस बिरह भा राती। जरै बिरह ज्यों दीपक बाती।।
काँपा हिया जनावा सीऊ। तौ पै जाइ होइ संग पीऊ।।
घर घर चीर रचा सब काहूँ। मोर रूप रंग लै गा नाहू।।
पलटि न बहुरा गा जो बिछोई। अबहूँ फिरै फिरै रँग सोई।।
सियरि अगिनि बिरहिनि हिय जारा। सुलगि सुलगि दगधै भै छारा।।
यह दुख दगध न जानै कंतू। जोबन जरम करै भसमंतू।।
पिय सौं कहेहु सँदेसरा ऐ भँवरा ऐ काग।
सो धनि बिरहें जरि गई तेहिक धुआँ हम लाग।।

प्र08. किन्हों तीन प्रश्नों के उत्तर दीजिए :
(क) कार्नेलिया का गीत कविता में प्रसाद ने भारत की किन विशेषताओं की ओर संकेत किया है ?
(ख) बनारस में धीरे-धीरे क्या-क्या होता है ? 'धीरे-धीरे' से कवि इस शहर के बारे में क्या कहना चाहता है ?
(ग) गीतावली से संकलित पद 'राघौ एक बार फिरि आवो' में निहित करूणा और सन्देश को अपने शब्दों में स्पष्ट कीजिए।
(घ) चार मुख, पाँच मुख और षट मुख किन्हें कहा गया है और उनका देवी सरस्वती से क्या सम्बन्ध है ?

प्र09. निम्नलिखित काव्य-पंक्तियों का काव्य-सौंदर्य स्पष्ट कीजिए :
बुझ गई है लौ पृथा की,
जल उठो फिर सींचने को।
अथवा
कुसमित कानन हेरि कमलमुखि, मूदि रहए दु नयान।
कोकिल-कलरव, मधुकर-धुनि सुनि, कर देइ झाँपइ कान।।

प्र010. किसी एक कवि का साहित्यिक परिचय दीजिए :
(क) जयशंकर प्रसाद,
(ख) सच्चिदानंद हीरानंद वात्स्यायन 'अज्ञेय',
(ग) घनानंद

प्र011. किन्हीं दो गद्यांशों की सप्रसंग व्याख्या कीजिए :
(क) एक छोटे से गांव के निकट पत्थरों के ढेर के बीच, पेड़ के नीचे, एक चतुर्मख शिव की मूर्ति देखी। वह वैसे ही पेड़ के सहारे रखी थी जैसे उठाने के लिए मुझे ललचा रही हो। अब आप ही बताइए, मैं करता ही क्या ? यदि चांद्रायण व्रत करती हुई बिल्ली के सामने एक चूहा स्वयं आ जाए तो बेचारी को अपना कर्त्तव्य पालन करना ही पड़ता

है। इक्के से उतर कर इधर—उधर देखते हुए उसे चुपचाप इक्के पर रख लिया। 20 सेर वज़न में रही होगी। 'न कूकुर भूँका, न पहरू जागा।' मूर्ति अच्छी थी। पसोवे से थोड़ी सी चीज़ों के मिलने की कमी इसने पूरी कर दी।
(ख) राजा ने हुक्म दिया कि उसके राज में सब लोग अपनी आँखें बन्द रखेंगे ताकि उन्हें शान्ति मिलती रहे। लोगों ने ऐसा ही किया क्योंकि राजा की आज्ञा मानना जनता के लिए अनिवार्य है। जनता आँखें बन्द किए-किए सारा काम करती थी और आश्चर्य की बात यह कि काम पहले की तुलना में बहुत अधिक और अच्छा हो रहा था। फिर हुक्त निकला कि लोग अपने-अपने कानों में पिघला हुआ सीसा डलवा लें क्योंकि सुनना जीवित रहने के लिए बिल्कुल जरूरी नहीं है। लोगों ने ऐसा ही किया और उत्पादन आश्चर्यजनक तरीके से बढ़ गया।
(ग) धिक्कार है उन्हें जो तीलियां तोड़ने के बदले उन्हें मजबूत कर रहे हैं, जो भारत भूमि में जन्म लेकर और साहित्यकार होने का दंभ करके मानव मुक्ति के गीत गाकर भारतीय जन को पराधीनता और पराभव का पाठ पढ़ाते हैं। ये द्रष्टा नहीं हैं, इनकी आंखें अतीत की ओर हैं। ये स्रष्टा नहीं हैं, इनके दर्पण में इन्हीं की अंहवादी विकृतियां दिखाई देती हैं। लेकिन जिन्हें इस देश की धरती से प्यार है, इस धरती पर बसने वालों से स्नेह है, जो साहित्य की युगांतरकारी भूमिका समझते हैं, वे आगे बढ़ रहे हैं।

$$
(4+4=8)
$$

प्र012. किन्हीं तीन प्रश्नों के उत्तर दीजिए :
(क) 'प्रेमधन की छाया-स्मृति' संस्मरण में लेखक ने चौधरी साहब के व्यक्तित्व के किन-किन पहलुओं को उजागर किया है ?
(ख) संवदिया की क्या विशेषताएं हैं और गांववालों के मन में संवदिया की क्या अवधारणा है ?
(ग) अराफ़ात के आतिथ्य प्रेम से सम्बन्धित किन्हीं दो घटनाओं का वर्णन कीजिए।
(घ) 'कुट', 'कुटज' और 'कुटनी' शब्दों का विश्लेषण कर उनमें आपसी सम्बन्ध स्थापित कीजिए।

प्र013. किसी एक निबन्धकार का साहित्यिक परिचय दीजिए :
(क) राम चन्द्र शुक्ल,
(ख) ममता कालिया

प्र014. किन्हीं दो प्रश्नों के उत्तर दीजिए :
(क) 'यह फूस की राख न थी, उसकी अभिलाषाओं की राख थी।' सन्दर्भ सहित विवेचन कीजिए।
(ख) पहाड़ों की चढ़ाई में भूप दादा का कोई जवाब नहीं। उसके चरित्र की विशेषताएं बताइए।
(ग) बिस्कोहर में हुई बरसात का जो वर्णन बिसनाथ ने किया है, उसे अपने शब्दों में लिखिए।

प्र015. (क) 'चूल्हा ठण्डा किया होता, तो दुश्मनों का कलेजा कैसे ठण्डा होता ?' इस कथन के आधार पर सूरदास की मनःस्थिति का वर्णन कीजिए। अथवा
'प्रकृति सजीव नारी बन गई' - इस कथन के सन्दर्भ में लेखक की प्रकृति, नारी और सौन्दर्य संबंधी मान्यताएं स्पष्ट कीजिए।
(ख) 'आरोहण' कहानी को पढ़कर आपके मन में पहाड़ों पर स्त्री की स्थिति की क्या छवि बनती है ? उस पर अपने विचार व्यक्त कीजिए।

अथवा
लेखक को क्यों लगता है कि 'हम जिसे विकास की औद्योगिक सभ्यता कहते हैं वह उजाड़ की अपसभ्यता है' ? आप क्या मानते हैं ?
(4)

## MATHEMATICS

I. Unit-I (8)

1. Relations and Functions, $31 / 2 \quad=31 / 2$
2. Inverse Trignometric Function, $1+31 / 2(\mathrm{C})=41 / 2$
II. Unit-II (11½)
3. Matrices, $1+2$ (C)
$=3$
4. Determinants, $31 / 2+5$
$=81 / 2$
III. Unit-III (37½)
5. Continuity and Differentiability, $1+2+31 / 2(\mathrm{C})=61 / 2$
6. Applications of Derivatives, $1+2+5$ (C)
= 8
7. Integrals, $1+31 / 2+31 / 2+31 / 2$
$=11 \frac{1}{2}$
8. Application of integrals, 5 (C)
= 5
9. Differential Equations, $1+2+3^{1 ⁄ 2} 2$
$=61 / 2$
IV. Unit-IV (15)
10. Vectors, $1+1+31 / 22=51 / 2$
11. Three-Dimensional Geometry, $1+31 / 2+5(\mathrm{C}) \quad=91 / 2$
V. Unit-V (5)
12. Linear Programming , $5=5$
VI. Unit-VI (8)
13. Probability, $1+3 ½+3 ½(\mathrm{C})=8$
Q.No.

Marks
Total
1-10
1
10
11-14
2
08
15-26
$31 / 2$
42
27-31
5

Choice :
Q.No. : 11, 16, 18, 22, 26, 28, 29, 30

Marks: 2, $312,31 / 2,3112,3112,5,5,5,=31$

## MATHEMATICS

Special Instructions:

1. You must write Question Paper Series in the circle at top left side of title page of your answer book.
2. While answering your questions you must indicate on your answer book the same question number as appears in your question paper.
3. Do not leave blank page(s) in your answer book.
4. Q.No. 1 to 10 multiple choice questions are of 1 mark each. Questions 11 to 14 are of 2 marks each, Q.Nos. 15 to 26 are of $31 / 2$ marks each and Q.Nos. 27 to 31 are of 5 marks each.
5. All questions are compulsory.
6. Internal choices have been provided in some questions. You have to attempt only one of the choices in such questions.
7. Use of calculator is not permitted, however, you ask for logarithmic tables, if required from the superintendent of examinations.
8. Try to answer the questions in serial order as far as possible.
Q1. If $\sin ^{-1} \mathrm{x}=\mathrm{y}$ then
(a) $0 \leqslant y \leqslant \pi$
(b) $-\frac{\pi}{2} \leqslant y \leqslant \frac{\pi}{2}$
(c) $0<$ y $<\pi$
(d) $-\frac{\pi}{2}<y<\frac{\pi}{2}$

Q2. $A=[a i j]_{m \times n}$ is a square matrix if
(a) $\mathrm{m}<\mathrm{n}$
(b) $\mathrm{m}>\mathrm{n}$
(c) $\mathrm{m}=\mathrm{n}$
(d) None

Q3. Derivative of $(\mathrm{ax}+\mathrm{b})^{\mathrm{n}}$ is :
(a) $\underline{n(a x+b)^{n-1}}$
(b) $(a x+b)^{n-1}$
(c) $\mathrm{n}(\mathrm{ax}+\mathrm{b})^{\mathrm{n}-1}$
(d) na(ax $+b)^{n-1}$
a
a

Q4. The rate of change of the area of a circle with respect to its radius r at $\mathrm{r}=6 \mathrm{~cm}$ is:
(a) $10 \pi$
(b) $12 \pi$
(c) $8 \pi$
(d) $11 \pi$

Q5. $\int_{1}^{\sqrt{3}} \frac{\mathrm{dx}}{1+\mathrm{x}^{2}}$ equals :
(a) $\frac{\pi}{3}$
(b) $\frac{2 \pi}{3}$
(c) $\frac{\pi}{6}$
(d) $\frac{\pi}{12}$

Q6. The order of differential equation
$2 x^{2} y^{11}-3 y^{1}+y=0$ is
(a) 2
(b) 1
(c) 0
(d) not defined

Q7. If $\theta$ is angle between $\vec{a}$ and $\vec{b}$, then $\overrightarrow{\mid a} \cdot \vec{b}|=|\vec{a} \times \vec{b}|$ when $\theta$ is equal to :
(a) 0
(b) $\frac{\pi}{4}$
(c) $\frac{\pi}{2}$
(d) $\pi$

Q8. If $\vec{a}$ is a non zero vector of magnitude 'a' and $\lambda$ a non zero scalar, then $\lambda \vec{a}$ is a unit
vector if :
(a) $\lambda=1$
(b) $\lambda=-1$
(c) $a=|\lambda|$
(d) $a=\frac{1}{|\lambda|}$

Q9. The planes : $2 \mathrm{x}-\mathrm{y}+4 \mathrm{z}=5$ and $5 \mathrm{x}-2.5 \mathrm{y}+10 \mathrm{z}=6$ are :
(a) Perpendicular
(b) Parallel
(c) Intersect $y$-axis
(d) passes through $\left[0,0, \frac{\Sigma}{4}\right]$
$Q 10$. If $P(A)=\frac{1}{2}, P(B)=0$, then $P(A / B)$ is
(a) 0
(b) $\begin{aligned} & 1 \\ & 2\end{aligned}$
(c) not defined
(d) 1

Q11. Find $x$ and $y$ if $2\left[\begin{array}{ll}1 & 3 \\ 0 & x\end{array}\right)+\left(\begin{array}{ll}y & 0 \\ 1 & 2\end{array}\right)=\left[\begin{array}{ll}5 & 6 \\ 1 & 8\end{array}\right)$
OR
By using elementary operations, find the inverse of matrix $A=\left(\begin{array}{rr}1 & 2 \\ 2 & -1\end{array}\right)$
Q12. Examine the function : $\quad \mathrm{f}(\mathrm{x})=\frac{1}{\mathrm{x}-5}$ for continuity :

Q13. Find the least value of a such that the function $f$ given by $f(x)=x^{2}+a x+1$ is strictly increasing on $(1,2)$

Q14. Solve the differential equation :

$$
y^{\prime}+y=1
$$

Q15. Find gof and fog if
$f(x)=|x|$ and $g(x)=|5 x-2|$
Q16. Show that :
$\sin ^{-1}\left(2 x \sqrt{1-x^{2}}\right)=2 \sin ^{-1} x, \quad-\frac{1}{\sqrt{2}} \leqslant x \leqslant \frac{1}{\sqrt{2}}$
OR
Prove that :

$$
\tan ^{-1} x+\tan ^{-1} \frac{2 x}{1-x^{2}}=\tan ^{-1}\left(\frac{3 x-x^{3}}{1-3 x^{2}}\right),|x|<\frac{1}{\sqrt{3}}
$$

Q17. By using properties of determinant prove that :

$$
\left|\begin{array}{lll}
b+c & q+r & y+z \\
c+a & r+p & z+x \\
a+b & p+q & x+y
\end{array}\right|=2\left|\begin{array}{lll}
a & p & x \\
b & q & y \\
c & r & z
\end{array}\right|
$$

Q18. Is the function defined by :
$f(x)=\quad \begin{aligned} & x+5, \text { if } x \leqslant 1 \\ & x-5, \text { if } x>1\end{aligned}$
a continuous function ?
OR
Differentiate $\sin \left(\cos \left(\mathrm{x}^{2}\right)\right)$ w.r.t. x
Q19. Integrate $\int x \sec ^{2} x d x$
2
Q20. Find $\left(x^{2}+1\right) d x$ as the limit of a sum.
$0 \quad \int \frac{\int}{0}$
Q21. By using properties of definite integrals, evaluate :
$\pi / 2$
$(2 \log \sin \mathrm{x}-\log \sin 2 \mathrm{x}) \mathrm{dx}$ 0

Q22. Solve the differential equation :
$\left(\tan ^{-1} y-x\right) d y=\left(1+y^{2}\right) d x$
OR

Solve the differential equation
$\left(x^{2}+x y\right) d y=\left(x^{2}+y^{2}\right) d x$
Q23. Find the area of a triangle having the points $\mathrm{A}(1,1,1), \mathrm{B}(1,2,3)$ and $\mathrm{C}(2,3,1)$ as its vertices.

Q24. Show that the lines

$$
\frac{x+3}{-3}=\frac{y-1}{1}=\frac{z-5}{5} \text { and } \frac{x+1}{-1}=\frac{y-2}{2}=\frac{z-5}{5}
$$ are coplanar

Q25. Find the probability distribution of
(i) Number of heads in two tosses of a coin.
(ii) Number of tails in the simultaneous tosses of three coins.
(iii) Number of heads in four tosses of a coin.

Q26. Find the probability of getting 5 exactly twice in 7 throws of a dice

## OR

Let E and F be events with $\mathrm{P}(\mathrm{E})=\frac{3}{5} \quad \mathrm{P}(\mathrm{F})=\frac{3}{10}$ and $\mathrm{P}(\mathrm{E} \cap \mathrm{F})=\frac{1}{5}$.
Are E and F independent?

Q27. Solve the following system of equations by matrix method :
$3 x-2 y+3 z=8$
$2 \mathrm{x}+\mathrm{y}-\mathrm{z}=1$
$4 x-3 y+2 z=4$

Q28. Find the local maxima and local minima if any of the function :
$f(x)=x^{3}-6 x^{2}+9 x+15$
OR
A wire of length 28 m is to be cut into two pieces. One of the pieces is to be made into a square and the other into a circle. What should be the length of two pieces, so that the combined area of the square and the circle is minimum.

Q29. Find the area of the region in the first quadrant enclosed by the $x$-axis, the line $y=x$ and the circle $x^{2}+y^{2}=32$

OR
Find the area under the given curves and the given lines. $y=x^{2}, x=1, x=2$ and $x-$ axis

Q30. Find the shortest distance between the lines $\frac{x+1}{7}=\frac{y+1}{-6}=\frac{z+1}{1} \quad$ and $\frac{x-3}{1}=\frac{y-5}{-2}=\frac{z-7}{1}$

Find the equations of the planes that passes through three points $(1,1,-1),(6,4,-5),(-4,-2,3)$

Q31. Minimise $Z=-3 x+4 y$
subject to $x+2 y \leqslant 8,3 x+2 y \leqslant 12, x \geqslant 0, y \geqslant 0$

## PHYSICS

Time Allowed : 3 Hrs.
Max. Marks 60

* Candidates are required to give their answers in their own words as far as practicable.
* Marks allotted to each question are indicated against it.

Special Instructions :-

1. You must write "Question Paper Series" in the circle at top left side of title page of your Answer-book.
2. While answering your questions, you must indicate on your answer book the same question no. as appeared in your question paper.
3. Do not leave blank page / pages in your answer-book.
4. All questions are compulsory.
5. Internal choice is given in some questions.
6. Use log tables, if necessary.
7. Answers should be brief and to the point.
8. Question Nos 1-8 are MCQ (Multiple Choice Questions) carrying "1" mark each, Question Nos. 9-16 are short answer type carrying "2" marks each, Question Nos. 17-24 are short answer type carrying "3" marks each and Question Nos. 25-27 are long answer type carrying "4" marks each.

Q1. The S.I. unit of Electric charge is :
(a) Coulomb
(b) Ampere
(c) Weber
(d) Volt
1

Q2. The best conductor among following is :
(a) Iron
(b) Copper
(c) Silver
(d) Alluminium
1

Q3. The torque experienced by magnetic dipole having dipole moment " $\vec{M}$ " placed in uniform magnetic field $(\vec{B})$ is :
(a) $\vec{B} \times \vec{M}$
(b) $\vec{M} \times \vec{B}$
(c) Zero
(d) None of these
1

Q4. The Lenz's law is in direct consequence of
(a) Conservation of momentum
(b) Conservation of charge
(c) Conservation of energy
(d) None of these

Q5. The image formed by concave lens is :
(a) Real
(b) Virtual
(c) Real as well as virtual
(d) None of these

Q6. Optical fibre works on the principle of
(a) Refraction of light
(b) Diffraction of light
(c) Polarization of light
(d) Total Internal Reflection

Q7. The energy equivalent of 1 gm of substance is :
(a) $9 \times 10^{13} \mathrm{~J}$
(b) $9 \times 10^{14} \mathrm{~J}$
(c) $9 \times 10^{16} \mathrm{~J}$
(d) $9 \times 10^{15} \mathrm{~J}$
1

Q8. A.C. is converted into D.C. by
(a) Transistor
(b) Amplifier
(c) Rectifier
(d) Oscillator
1

Q9. What do you mean by conservation of charge, give two examples.
OR
Calculate the electrical capacitance of parallel plate capacitor.
Q10. Calculate the equivalent resistance between A and B in following network. 2

Q11. Calculate the magnetic field due to current carrying straight solenoid.
Q12. State and explain the Faradays' laws of electro-magnetic Induction.
Q13. Draw a labelled ray diagram of compound Microscope.
A 4.5 cm needle is placed 12 cm away Give the location of image and magnif

Q14. Define and explain Brewster's law.
Q15. Differentiate Conductor, Insulator and S


Q16. Explain principle of reflection on the basis of Hygen's Principle.
Q17. On the basis of Einstein's photoelectric equation, explain the laws of photoelectric effect.

The work function of Cesium metal is 2.14 ev . when light of frequency $6 \times 10^{14} \mathrm{~Hz}$ is incident on the metal surface then find
(a) Maximum kinetic energy of the emitted electrons
(b) Stopping potential

Q18. State and explain laws of radioactive decay and find expression for half life of radioactive substance.
Q19. Define Mean Value \& R.M.S. value of AC and find expression for Mean Value of AC. ..... 3

Q20. Explain the working of transistor of Common-Emitter amplifier.
What is "AND" Gate, write its logic symbol, Boolean expression and truth table.

Q21. What is modulation, why it is needed and how amplitude modulated wave is detected ?

Q22. Show that EM waves are transverse in nature.
Q23. Define Drift velocity of electron in a conductor and establish relation between drift velocity and electric current.

Q24. (a) Decode the following carbon-resistor having colour codes as, Black-Yellow Green \& Silver.
(b) Define Eddy currents.
(c) What is function of transducer in Communication System.

Q25. Establish the Len's Maker's formula for convex lens stating the new Cartisian Sign Conventions used.

OR
Define Diffraction of light and explain diffraction of light at single slit.
Q26. Calculate electric field due to electric dipole at a point lying on its equitorial line.

Q27. Define diamagnetism, give properties of paramagnetism and explain the domain theory of ferromagnetism.

## PHYSICS <br> (Practical)

Time Allowed : 3 Hrs.
Max. Marks 25

Note : (1) The candidates will tick mark ( $\checkmark$ ) two experiments from each section A and $B$. The Practical examiner will allot one experimental question from each Section A and B to the candidate out of marked questions.
(2) The candidate will tick mark ( $\checkmark$ ) three activity questions from each Section A and B. The examiner will allot two activity questions from each Section A and B.
(3) Section C is compulsory.
(4) Log tables will be supplied on demand.
(5) Any change from allotted experimental question will cost (two) 2 marks.
(6) Any change from allotted activity question will cost (one) 1 mark.

Note : The candidates are required to attempt either one experimental question (or) two activity questions from each Section A and B.

## Section-A

Q1. To verify laws of combination (Series / parallel) of resistance using a metre bridge.

Q2. To compare the e.m.f.'s of two given primary cells using potentiometer.
Q3. To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.

Q4. To find the frequency of a.c. mains with Sonometer.
6
Q5. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

## ACTIVITIES

Q1. To assemble the components of given electrical circuit.
Q2. To measure the resistance and impedance of an inductor with or without iron core.

Q3. To study the variation in potential drop with length of a wire for a steady current.

Q4. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.

Q5. To measure resistance, voltage (AC/DC), current and check the continuity of given circuit using multimeter.

## Section-B

Q6. To find the focal length of convex mirror using convex lens.
Q7. To find the value of $V$ for different values of $U$ in case of concave mirror and find the focal length.

Q8. To determine the refractive index of a glass slab using a travelling microscope. 6
Q9. To draw the I-V characteristic curve of a p-n junction in forward bias and reverse bias.

Q10. To draw the characteristic curves of zener diode and to determine its reverse breakdown voltage.

## ACTIVITIES

Q6. To observe polarization of light using two polaroids. 3
Q7. To observe diffraction of light due to thin slit.
Q8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

3
Q9. To study the effect of intensity of light (by varying distance of source) on L.D.R.

Q10. To study the nature and size of the image of a candle formed by a concave mirror on screen.

## Section-C

Q11. Practical record of experiments and activities (Note-Book) 5
Q12. Investigatory Projects :
(a) Records 2
(b) Viva - Voce2

Q13. Viva - Voce on experiments and activities.

## CHEMISTRY

Time Allowed : 3 Hrs.
Max. Marks 60

## Special Instructions :-

1. You must write question paper series in the circle at top left side of title page of your Answer-book.
2. All questions are compulsory. Internal choices have been given in some questions.
3. Question Nos. I to VI are multiple choice questions (MCQ) carry 1 (one) mark each. Choose one correct answer among four options.
4. Question Nos VII to X are very short answer type carrying 1 (one) mark each. Answer these questions in about one word or one line.
5. Question Nos. XI to XVII are short answer type carrying 2 (Two) marks each. Answer these questions in about 30 words each.
6. Question Nos. XVIII to XXV are short type carrying 3 (three) marks each. Answer these questions in about 40 words each.
7. Question Nos. XXVI to XXVIII are long type carrying 4 (four) marks each. Answer these questions in about 50 words each.
8. Do not leave blank page / pages in your answer-book.

Q1. The coordination number of a metal crystallising in a hexagonal close packing structure is :
(a) 12
(b) 4
(c) 8
(d) 6
1

Q2. The boiling point of solvent containing a non-volatile solute :-
(a) is decreased
(b) is elevated
(c) does not change
(d) None of the above

Q3. Galvanised iron sheets are coated with :
(a) C
(b) Cu
(c) Zn
(d) Ni
1

Q4. The rate constant of a reaction is $1.2 \times 10^{-5} \mathrm{~mol}^{-2}$ litre $^{2} \mathrm{~S}^{-1}$. The order of a reaction is:
(a) Zero
(b) 1
(c) 2
(d) 3

1
Q5. Which type of property is the Brownian movement of colloidal sol ?
(a) Electrical
(b) Optical
(c) Mechanical
(d) Colligative
1

Q6. Cinnabar is an ore of :-
(a) Hg
(b) Zn
(c) Ag
(d) Cu
1

Q7. Define inert pair effect.1

Q8. What is the shape of chromate ion ? 1
Q9. Write the IUPAC name of iso - butyl alcohol.

Q10. What happen when chloroform is exposed to air and sun light?
Q11. Write the four differences between Schottky defects and Frenkel defects. 2
Q12. How many coulombs are required to deposit 50 gm of aluminium when the electrode reaction is :
$\mathrm{Al}^{3+}+3 \mathrm{e}^{-} \longrightarrow \mathrm{Al}(\mathrm{S})$ 2

Q13. Write the mechanism of rusting of iron.
Q14. Describe the following terms :
(i) Electrodialysis
(ii) Emulsion
2

Q15. (a) Give two examples of interhalogen compounds.
(b) Oxygen exist as gas while sulphur exist as a solid at room temperature. Why?
$1+1=2$
Q16. (a) Name the phenomenon responsible for the similar properties of Zr and Hf .
Define it.
(b) Why is the separation of lanthanoids difficult? $1+1=2$

Q17. How is potassium dichromate prepared from chromite? 2
Q18. (a) Write the IUPAC system name of the complex compound :
$\mathrm{NH}_{4}\left[\mathrm{Cr}\left(\mathrm{NH}_{3}\right)_{2}(\mathrm{NCS})_{4}\right]$
(b) Discuss the bonding in $\left[\mathrm{Fe}(\mathrm{CH})_{6}{ }^{3-}\right.$. 2

OR
(a) Define coordination entity. 1
(b) How many geometrical isomers of $\left[\mathrm{Cr}(\mathrm{en})_{2} \mathrm{Cl}_{2}{ }^{+}\right.$exist ? Which of these show optical activity ? 2

Q19. (a) Why chlorobenzene is less reactive than chloroethane ? Explain. 2
(b) How can you convert methyl chloride to ethyl chloride ? 1

Q20. Write a note on the following :
(a) Keimer - Tiemann Reaction
(b) Coupling Reaction
(c) Williamson's Synthesis $1+1+1=3$

Q21. (a) Define ppm. 1
(b) A solution of glucose in water is labelled as $10 \%(\mathrm{w} / \mathrm{w})$. The density of the solution is $1.20 \mathrm{gm} \mathrm{L}^{-1}$. Calculate molality of solution. OR
(a) Define Van't Hoff Factor 1
(b) A solution containing 12.5 gm of a non-electrolyte substance in 175 gm of water gave boiling point elevation of 0.70 K . Calculate the molar mass of the substance.
$\left(\mathrm{K}_{6}\right.$ for water $\left.=0.52 \mathrm{~K} \mathrm{Kg} \mathrm{mol}^{-1}\right)$
Q22. (a) Define activation energy.
(b) A first order reaction is $20 \%$ complete in 10 minutes. Calculate the time for $75 \%$ completion of reaction.

Q23. Explain the following :
(a) $\mathrm{PbQ}_{2}$ is more stable than $\mathrm{PbCl}_{4}$.
(b) $\mathrm{NH}_{3}$ has higher boiling point than $\mathrm{PH}_{3}$.
(c) $\mathrm{BF}_{3}$ is a weaker Lewis Acid than $\mathrm{BCl}_{3}$. $1+1+1=3$

Q24. (a) How can you distinguish between : aldehydes and ketones1
(b) Write a note on the following :-
(i) H.V.Z. - Reaction
(ii) Cannizzaco's Reaction 2

Q25. (a) What type of bonds hold a DNA double helix together ? 1
(b) What are proteins ? State their biological importance. 2

Q26. (a) Give chemical reaction for Gabriel's phthalimide synthesis. 1
(b) Explain, why ethyl amine is more basic than aniline. 2
(c) How will you convert aniline to phenol.

OR
(a) Give chemical reaction for diazotization reaction and Hoffmann Bromide reaction.
(b) What happen when :
(i) Methyl isocyanide is treated with ozone.
(ii) Methyl amine is treated wth sodium nitrite and cold dil. HCl solution. 2+2
Q27. (a) Write the monomers of Terylene.
(b) Give the preparation of :
(i) Buna - S
(ii) Orlon
(c) Define the Double Base Propellants.

Q28. (a) Define Vat Dyes
(b) Write a note on Zone refining.
(c) Complete the following reaction :-
(i) $\mathrm{CH}_{3} \mathrm{COCH}_{3}+4 \mathrm{HI} \xrightarrow[423 \mathrm{~K}]{\text { Red P}}$ ? + ? + ?
(ii) $\left(\mathrm{CH}_{3}\right)_{2} \mathrm{CHOH}+\mathrm{Cu} \xrightarrow{573 \mathrm{~K}}$ ? + ?

# CHEMISTRY <br> (New Regulation) <br> Practical 

Time Allowed : 3 Hrs. ..... Max. Marks 25
Q1. Determine the equivalent weight of crystalline in a sample of Mohr's Salt, 19.6 gm of which have been dissolved per litre of the given solution. (Ask for what you want)8
Q2. Find out two acidic radicals and two basic radicals from given mixture. ..... 6
Q3. To prepare pure crystals of potash alum by crystallization method. ..... 3
Q4. Class record and Viva. ..... 4
Q5. Investigatory Project. ..... 4

## BIOLOGY

(Theory)

Time Allowed : 3 Hrs.
Max. Marks 60
Special Instructions :-

1. You must write question paper series in the circle at top left side of title page of your Answer-book.
2. While answering your question, you must indicate on your answer book same question No. as appears in your question paper.
3. Do not leave blank page / pages in your Answer-book.
4. All the questions are compulsory and are divided into four sections.
5. Answers should be to the point.
6. Que No. 1 to 5 (Section-A) are of one mark each and are of MCQ type.
7. Que No. 6 to 15 (Section-B) are of $11 / 2$ marks each. Answer each of them in 30-40 words.
8. Que No. 16 to 23 (Section-C) are of $21 / 2$ marks each. Answer each of them in about 80 words.
9. Que No. 24 \& 25 (Section-C) are of 3 marks each. Answer each of them in about 120 words.
10. Que No. 26 (Section-D) is of 4 marks. Answer in about 140 words.
11. Que No. 27 \& 28 are of 5 marks each. Answer in about $150-170$ words.
12. Draw diagrams wherever necessary.

## Section-A

Q1. Cllistogamous flower are
(a) Male flower which never opens
(b) female flower which never opens
(c) Bisexual flower which never opens
(d) Open bisexual flower which perform self pollination in bud condition.

Q2. An 'O' blood group child can not have parents of blood group
(a) B and B
(b) A and B
(c) O and O
(d) AB and O

Q3. Single cell protein (SCP) represents
(a) Protein extracted from a micro-organism
(b) Protein from a clone of cells
(c) Protein mass from single cell animal
(d) Biomass from growth of a micro-organism

Q4. Addition of foregin gene in to a crop is
(a) Genitic Engineering
(b) Biotechnology
(c) Tissue culture
(d) Immunisation

Q5. Pyramid of number deals with
(a) Species in an area
(b) Individuals in a Community
(c) Individual in a trophic level
(d) Sub species in a Community

## Section-B

Q6. What is Colostrum ? What are its main functions ?
OR
What are Leydig cells ? What is their function ?
Q7. How is a sickle cell carrier at an advantage over the rest of human population in a malaria ridden area ?

Q8. What are transgenic bacteria ? Illustrate using one example.
OR
Explain principle and function of ELISA.
Q9. Briefly describe Predator food chain.

Q10. Define :
(a) Dominant trait.
(b) Recessive trait
(c) Homozygous
OR
Write one function of each.
(a) Promotor gene
(b) t RNA
(c) Exons

Q11. What is triple fussion ? What is its significance?
Q12. Microbes can be used to decrease the use of chemical fertilizer and pesticides ?
Explain how this can be accomplished ?
Q13. Define the following terms :
(a) Biopatent
(b) Biopiracy
(c) Genitically modified food

Q14. Outline salient features of Carbon Cycle in nature.
Q15. What is gene therapy ?

## Section-C

Q16. What is aminocentesis ? What is its significance ?

Q17. What are Homologous organs ? Explain with examples.
Q18. What are biofertilzer, explain ?
Q19. Define :
(a) Scavenging
(b) Commensalism
(c) Symbiosis
(d) Predation
(e) Proto co-operation

OR
Write one example for each of the following :
(a) Heliophyte
(b) Viviparous plant
(c) Edothermic animals
(d) Ectothermic animals
(e) Sciophyle

Q20. What is biotechnology ? How does old biotechnology differs from modern biotechnology ?

Q21. Define Mendal's law of Independent assortment. Explain with suitable example. OR

Write the application of Recombinant DNA technology.
Q22. Differentiate between spermatogensis and oogensis.
Q23. Describe hot spots of biodiversity with species reference to India.
Q24. Descibe an inducible operon with example and differentiate from repressible operon.

Q25. What do you understand by acid rain ? What are its effects on the vegitation ?

## Section-D

Q26. What is Atavisim also write the name of atleast four vestigeal organ present in human body.

OR
Describe Darwin Theory of 'Natural Selection'.
Q27. (a) Write expanded forms of :
(1) AMIS
(2) CMIS
(3) NACO
(b) List any four danger signals of Cancer.

OR
(a) Name and explain briefly any three types of Cancer.
(b) Differentiate between antibodies and interferons.

Q28. (a) Recapitulation theory was proposed by
(1) Van Bear
(2) Darwin
(3) Haeckel
(4) Aristotle
(b) Draw labelled L.S. of angiospermic ovule.
(c) What are Cry Protein ? Name the organism that produces them.

## BIOLOGY <br> (Practical)

Time Allowed : 3 Hrs.

General Instructions :-

1. All the questions are divided into two sections. Section A and Section B. Perform any two experiments from Section-A.
2. All the questions of Section-B are compulsory.

## SECTION-A

Q1. Peform an experiment to study the soil samples from different sites for their texture and moisture content.

Q2. Perform an experiment for the study of plant population density by quadrate method.

Q3. Perform an experiment to study pH and water holding capacity of soil.

Q4. Perform an experiment to study pH clarity and presence of any living organism from different samples of water.

## SECTION-B

Q5. Prepare a slide to show pollen germination.
Q6. Prepare temporary mount of onion root tip for the study of mitosis.
Q7. Identify, comment and draw well labelled diagrams of slides and specimens

$$
\mathrm{A}, \mathrm{~B}, \mathrm{C} \text { and } \mathrm{D} .
$$

$\left(1^{1 / 2}+1 \frac{1}{2}+11 / 2+11 / 2\right)$

Q8. Record of Investigatory Project and Viva based on the project.
Q9. Practical record and viva based on the experiments.

## ACCOUNTANCY

Time Allowed : 3 Hrs.
Max. Marks 65

सामान्य निर्देश :-

1. प्रश्न पत्र को दो भागों मे बाँटा गया है। भाग-अ और भाग-ब। भाग-अ के 50 अंक तथा भाग-ब के 15 अंक हैं।
2. सभी प्रश्न अनिवार्य हैं।
3. प्रत्येक प्रश्न के अंक आगे दर्शाए गए हैं।
4. उत्तर संक्षिप्त और अंकों के अनुसार होने चाहिए।

General Instructions :-

1. Question paper is divided into two parts. Part-A and Part-B. Part-A carries 50 marks and Part-B carries 15 marks.
2. All questions are compulsory.
3. Marks are indicated against each question.
4. Answer should be brief and according to marks allotted.

## Part-A

(Accounting for not for Profit Organisations, Partnership and Company Accounts)
Q1. सांझेदारी संलेख क्या है ?
2
What is Partnership Deed ?
Q2. Mr. Gupta is a partner in a firm. He drew regularly Rs. 1200 at the end of every month for the six months ending 30 June 2005. Calculate interest on drawing at 15\% p.a.2
Q3. अंश और ऋणपत्र में दो अन्तर बताइए। ..... 2
Give two distinctions between Share and Debentures.
Q4. ऋणपत्र की चार विशेषताएं बताओ। ..... 2
State the four characteristics of debenture.
Q5. अनुपातिक आबंटन से आपका क्या तात्पर्य है ? ..... 2
What do you mean by Pro-rata Allotment ?
Q6. लाभ-अर्जन अनुपात से क्या अभिप्राय है ? इसकी गणना कैसे की जाती है ? ..... 2
What is Gaining Ratio ? How it is calculated ?
Q7. आय व्यय खाता लाभ-हानि खाते से किस तरह अलग है ? ..... 3
How does the Income and Expenditure account differ from a Profit \& Loss Account?

Q8. P and S are partners sharing profits and losses in the ratio of 3:2. Their books showed goodwill at Rs. 20,000. R is admitted with $1 / 5$ th share which he acquires equally from P and S. R brings Rs. 20,000 as his capital and Rs. 10,000 as his share of goodwill. Profit at the end of the year were the amount of Rs. 1,00,000. You are required to give journal entries. 3

Q9. न्यूनतम अभिदान और अंशों के जब्त से क्या अभिप्राय है ?
What do you understand by Minimum Subscription and forfeiture of share ?
Q10. 'सिंकिंग फण्ड' क्या है ? यह क्यों बनाया जाता है ?
What is Sinking Fund and why it is prepared ?
Q11. A company issued Rs. 10,000 10\% Debentures on 1st Jan. 1997. Interest on these debentures is payable on 31st March and 30th September each year. Pass necessary journal for 1997 assuming that Income Tax is deducted @ $25 \%$ on interest and that accounts are closed on 30th September.

Q12. From the following Receipts and Payments $A / c$ of a club and from the information supplied, Prepare Income and Expenditure A/c for the year ended 31st Dec. 2000.

| To Balance bid | 250 | By Salaries | 1,200 |
| :---: | :---: | :---: | :---: |
| To Subscription |  | By Gen. Expenses | 300 |
| 1999 | 250 | By Electric Charges | 200 |
| 2000 | 1,000 | By Books | 100 |
| 2001 | 200 | By News Papers | 400 |
| To Sale of old furniture |  | By Postage | 50 |
| (costing 100) | 60 | By furniture | 250 |
| To rent received for the use of hall | 740 | By Balance clos | 500 |
| Entertainment | 400 |  |  |
| To sale of Newspaper | 100 |  |  |
|  | 3,000 |  | 3,000 |

Information :
(a) The club has 50 members each paying annual subscription of Rs. 25. Subscription outstanding on 31st Dec. 1999 were Rs. 300.
(b) On 31st Dec. 2000 salaries outstanding amount to Rs. 100. Salaries paid included Rs. 100 for the year 1999.
(c) On 1-1-2000 the club owned land and building valued at Rs. 10,000, furniture Rs. 600 and books for Rs. 500.

OR
प्राप्ति और भुगतान खाता क्या है ? इसकी क्या विशेषताएँ हैं ?
What is Receipt and Payment account ? What are its characteristics

Q13. X and Y share profits in the proportion of $3: 1$. The balance sheet of the firm as on 31st Dec. 1998 was as follows :

| Liabilities | Rs. | Assets | Rs. |
| :--- | :--- | :--- | ---: |
| Sundry Creditors | 41,500 | Cash at Bank | 23,500 |
| Capital |  | BIR | 3,000 |
| X 30,000 |  | Debtors | 16,000 |
| Y 16,000 | 46,000 | Stock | 20,000 |
|  |  | Land \& Building | 25,000 |
|  |  |  | 87,500 |
|  |  |  |  |

On 1st January, 1999 Z was admitted into partnership on the following terms :
(i) That Z will pay Rs. 10,000 as his share of capital.
(ii) That Z will pay Rs. 5,000 for goodwill.
(iii) That the stock be reduced by $10 \%$.
(iv) A provision at the rate of 5\% be created both for bad and doubtful debts and the BIR.
(v) That the value of the land and building be appreciated by 20\%. Prepare revaluation $\mathrm{A} / \mathrm{c}$ and capital $\mathrm{A} / \mathrm{c}$.

OR
ख्याति किसे कहते हैं ? एक नए साझेदार को इसके लिए क्यों मूल्य चुकाना पड़ता है ? इसका मूल्य किस प्रकार निर्धारित किया जाता है ?
What is goodwill ? Why does a new partner pay for it ? How is its value determined?

Q14. X Co. Ltd,. issued 10,000 shares of Rs. 10 each at Re. 1 Premium. The amount payable are as follows :

## Rs.

on application 3
on allotment 5 (including premium)
on first call 2
on final call 2

Ajay who was holding 100 shares, did not pay his allotment and first call money. His shares were forfeited and Sanjay who was holding 200 shares did not pay first call money and his shares were subsequently forfeited. The share were forfeited after the first call is over and reissued to Mr. Gupta for Rs. 2,500 fully paid. Prepare the necessary Journal Entries.

Q15. C, $D$ and $E$ were partners sharing profits in the ratio of $1 / 2,1 / 3$ and $1 / 6$ respectively. The Balance Sheet of C, D and E as on 31st Dec. 1998 are as follows :

| Liabilities | Amount | Assets | Amount |  |
| :--- | ---: | :--- | ---: | :---: |
| Sundry Creditors | 19,000 | Cash at Bank | 2,500 |  |
| B/P | 5,000 | Debtor | 16,000 |  |
|  |  |  | Less : Reserve for |  |
|  |  | Doubtful debts | 500 | 15,500 |
| Reserve Fund | 12,000 | Stock |  | 25,000 |
| Capital A/c |  | Motor vans |  | 8,000 |
| C 40,000 |  | Plant \& Machinery |  | 35,000 |
| D 30,000 |  | Factory Building | 45,000 |  |
| E 25,000 | 95,000 |  |  |  |
|  |  |  |  | $1,31,000$ |
|  |  |  |  |  |

D retires on that subject to the following adjustments.
(i) Goodwill of the firm to be valued at Rs. 18000 and is to be written off later on.
(ii) Plant to be depreciated by $10 \%$ and Motor vans by $15 \%$.
(iii) Stock to be appreciated by $20 \%$ and building by $10 \%$.
(iv) The Reserve for doubtful debts to be increased by Rs. 1950.

Prepare Revaluation A/c, Capital A/c and Balance Sheet of the firm after CLS retirements.

## OR

किसी साझेदार के अवकाश ग्रहण अथवा मृत्यु पर किए जाने वाले समायोजनों का विस्तार सहित वर्णन करो।
Explain in detail the adjustments of $\mathrm{A} / \mathrm{cs}$ on the retirement and death of Partner.

## Part-B <br> (Analysis of Financial Statements)

Q16. Under the headings will you show the following items in the Balance sheet of a Joint Stock Company.
(i) Stock
(ii) Cash A/c
(iii) Trade Marks
(iv) Bills Receivable
(v) Debentures

Q17. वित्तीय विवरण विश्लेषण के उद्देश्य से क्या अभिप्राय है ?
Define the objectives of financial analysis.
Q18. 'प्रवृत्ति विश्लेषण' का अभिप्राय एवं दो उद्देश्य बताइए।
What is the meaning and two objectives of trend analysis ?

Q19. रोकड़ प्रवाह विवरण की क्या सीमाएं हैं ?
What are the limitations of Cash Flow Statement?

Q20. From the following information calculate :
(a) Current Ratio
(b) Liquid Ratio
(c) Operating Ratio

| Items | Rs. |  | Rs. |  |
| :--- | :--- | :--- | ---: | ---: |
| Current Assets | 70,000 | Operating Expenses | 40,000 |  |
| Current Liabilities | 35,000 | Sales | $1,20,000$ |  |
| Stock | 30,00 | Cost of goods sold | 60,000 |  |

Q21. From the following information prepare a Cash Flow Statement.

| Opening Cash Balance | 20,000 |
| :--- | ---: |
| Closing Cash Balance | 24,000 |
| Decrease in Debtors | 10,000 |
| Increase in Creditors | 14,000 |
| Sale of Fixed Assets | 40,000 |
| Redemption of Debentures | $1,00,000$ |
| Net Profit for the year | 40,000 |

## ACCOUNTANCY

Time Allowed : 3 Hrs.
Max. Marks 65

Part-A Accounting for not for Profit Organisations, Partnership Firms and Companis

Unit-1 : Accounting for Not for Profit Organisation (8 marks)
Break up : 3 (Theory) +5 (Practical or Theory Choice) $=(8$ marks $)$
Unit-2 : Accounting for Partnership Firms (4 marks)
Break up : 2(Theory) +2 (Practical) $=(4$ marks $)$

Unit-3 : Reconstitution of Partnership = (17 marks)
Break up : 2(Theory) + 3 (Practical) + 5(Practical or Theory choice) + 7 (Practical or Theory Choice) $=17$ marks

Unit-4 : Accounting for Share Capital and Debentures (21 marks)
4(i) : Accounting for Share capital (12 marks)
Break up : 2(Theory) + 2(Theory) +3 (Theory) +5 (Practical) $=$ (12 marks)
4(ii) : Accounting for Debentures (9 marks)
Break up : 2(Theory) +3 (Theory) +4 (Practical) $=(9$ marks $)$
Part-B (Analysis of Financial Statements)
Unit-5 : Analysis of Financial Statements (9 marks)
Break up : 2(Theory) +2 (Theory) +2 (Theory) +3 (Practical) $=(9$ marks $)$
Unit-6 : Cash Flow Statement (6 marks)
Break up : 2(Theory) +4 (Practical) $=(6$ marks $)$

# Guidelines for Project Work (Practical) ACCOUNTANCY 

## Part-B (Analysis \& Financial Statement)

Time Allowed : 1½ Hrs.
Max. Marks 20

Unitwise weightage along with guidelines :-
Unit-I :- PROJECT FILE (4 Marks)
The student will prepare the Project File to record their work related its application oriented problems attempted by them based on Part B. The Project File should be neatly hand written with page number marked. Each step of the solution needs to be highlighted. Conclusions drawn are placed in boxes.

## Unit-II :- WRITTEN TEST (12 Marks) (One Hour)

There will be 3 application-oriented Problems of 6 marks each from Accounting Ratio, Comparative Statements and Cash Flow Statement. Out of which the students will attempt any two. Marks will be awarded on the steps taken, data identified and solution arrived at.

Unit-III :- VIVA - VOCE (4 Marks)
The Examiner will ask 3-4 questions to test the authenticity of the work done in the Project file by the student.

## IMPORTANT NOTE :-

The Examination of Project Work (Practical) will be conducted internally by the concerned schools. The marks obtained by the candidates in the Project Work (Practical) may be intimated by the concerned school to Boards office in the month of February every year.

However, students appearing in the capacity of Private candidate(s) shall have to get his Project Work (Practical) examined at an Institution / Examination Centre notified by the Board for the purpose.

# For Project Work (Practical) ACCOUNTANCY 

## Part-B (Analysis \& Financial Statement)

Time Allowed: $11 / 2$ Hrs.
Max. Marks 20
General Instructions :-
(i) Project file carries 4 marks.
(ii) Viva-Voce carries 4 marks.
(iii) Attempt any two application - oriented problems.
(iv) Each problem carries 6 marks.

Problem No. 1 :- $\quad$ The following comparative percentage are computed from the Financial Statements \& Two companies Onida and BPL.

| Onida Co. | BPL Co. |
| :--- | :--- |
| $10 \%$ | $9 \%$ |
| $12 \%$ | $10 \%$ |
| 75,000 | 90,000 |
| 8,000 | 8,600 |
| 8,600 | 11,700 |

A. Which company appears to be more successful ? Give reasons.
B. Which companies performance has deteriorated.

Problem No. 2 :- The following information is given :-
Current ratio : 2.5
Liquidity ratio : 1.5
Net working capital : Rs. 300,000
Stock turnover ratio : 6 times
(Cost of Sales / Closing stock)
Gross Profit Ratio 20\%
Fixed assets turnover ratio : 2 times
Average debt collection period : 2 months
Fixed assets : Share holders net worth 1:1
Reserves: Share capital 0.5:1
Draw up Balance Sheet from the above informations.

Problem No. 3 :- From the following information, calculate Cash Flow from Investing Activities and Financing Activities :

|  | Opening <br> (Rs.) | Closing <br> (Rs.) |
| :--- | :---: | :---: |
| Machinery at Cost | $2,00,000$ | $3,90,000$ |
| Accumulated Dep. on Machinery | $1,20,000$ | $2,00,000$ |
| Capital | $10,00,000$ | $15,00,000$ |
| Loan from I.D.B.I. | $5,00,000$ | $3,25,000$ |

During the year machinery costing $1,00,000$ was sold at Profit of Rs. 60,000 . Depreciation on machinery charged during the year amounted to Rs. 100,000.

## BUSINESS STUDIES

समय : 3 घण्टे
पूर्णांक : 85
Time Allowed : 3 Hrs.
Max. Marks 85

सामान्य निर्देश :-

1. प्रश्न पत्र को दो भागों में बाँटा गया है। भाग-अ और भाग-ब। भाग-अ के 50 अंक तथा भाग ब के 35 अंक हैं।
2. सभी प्रश्न अनिवार्य हैं।
3. प्रत्येक प्रश्न के अंक इसके आगे दर्शाए गए हैं।
4. उत्तर संक्षिप्त और अंकों के अनुसार होने चाहिए।

## General Instructions :-

1. Question paper is divided into two parts. Part A and Part B. Part A carries 50 marks and Part B carries 35 marks.
2. All questions are compulsory.
3. Marks are indicated against each question.
4. Answers should be brief and according to marks allotted.

## Hox \& V <br> Part -A (Sample Paper)

Q1. What do you mean by Management ?
प्रबन्ध किसे कहते हैं ?

Q2. "Management is both art as well as science". Explain.
'प्रबन्ध विज्ञान और कला दोनों हैं।' स्पष्ट कीजिए।
Q3. What do you mean by 'Levels of Management' ?
प्रबन्ध के स्तरों से आपका क्या अभिप्राय है ?
Q4. Explain the meaning of 'unity of direction'.
निर्देश की एकता (unity of direction) का अर्थ बताइए।
Q5. What is meant by 'Delegation of Authority' ?
2
'अधिकार का प्रत्यायोजन' (Delegation of Authority) को परिभाषित कीजिए।
Q6. What is functional structure of organisation ?
कार्यात्मक संगठन ढांचे से आपका क्या अभिप्राय है ?

Q7. Distinguish between delegation of Authority and decentralisation.
3
अधिकार अंतरण तथा विकेन्द्रीयकरण में अन्तर बताईये।
Q8. Differentiate between Time study and Motion study. ..... 4समय अध्ययन एवं गति अध्ययन में अंतर कीजिए।
Q9. Define recruitment. Explain in brief the internal sources of recruitment. ..... 4
भर्ती का क्या अभिप्राय है ? इसके आंतरिक स्रोतों की व्याख्या कीजिए।
Q10. Distinguish between recruitment and selection. ..... 4
भर्ती तथा चयन में अन्तर स्पष्ट कीजिए।
Q11. Explain in brief the meaning and importance of motivation. ..... 5
अभिप्रेरणा के अर्थ एवं महत्व को संक्षेप में स्पष्ट कीजिए।
Q12. Differentiate between formal and informal communication. ..... 5
औपचारिक तथा अनौपचारिक सन्देश वाहन में अन्तर कीजिए।
Q13. What is planning ? What are its characteristics ?
नियोजन किसे कहते हैं ? इसकी विशेषताओं का वर्णन कीजिए।
ORDescribe briefly the steps involved in the process of planning.नियोजन प्रक्रिया में संलग्न कदमों का संक्षेप में वर्णन कीजिए।6
Q14. Explain the characteristics of a good control system. अच्छी नियन्त्रण प्रणाली की विशेषताओं का वर्णन कीजिए। ..... OR
Explain the relationship between planning and control. नियोजन तथा नियन्त्रण के मध्य सम्बन्ध स्पष्ट कीजिए। ..... 6
Hox \& C
Part-B
Q15. What is capital structure ? ..... 2
पूंजी ढांचा क्या है ?
Q16. Explain the meaning of money market. ..... 2
मुद्रा बाजार का अर्थ स्पष्ट कीजिए।
Q17. State any two functions of stock exchange. ..... 2
स्कन्ध विपणि के किन्हीं दो कार्यों को बताइए।
Q18. Explain the objectives of Financial Management. ..... 3
वित्तीय प्रबन्ध के उद्देश्यों को बताइए।
Q19. State the objectives of Marketing. ..... 3
विपणन के उद्देश्यों को बताइए।

Q20. What is SEBI ? Explain the functions of SEBI.
सेवी क्या है ? सेवी के कार्यों का वर्णन कीजिए।
Q21. Explain various methods of sales promotion.
विक्रय संवर्द्धन की विभिन्न विधियों का वर्णन कीजिए।
Q22. What is under capitalisation ? Discuss its causes.
5
अल्प पूंजीकरण क्या है ? इसके कारणों की विवेचना कीजिए।
Q23. Distinguish between Selling and Marketing.
5
विपणन तथा विक्रयण में अन्तर कीजिए।
Q24. Explain the rights of Consumers under the Consumer Protection Act, 1986. 5 उपभोक्ता संरक्षण अधिनियम, 1986 के अनुसार उपभोक्ता के कौन-कौन से अधिकार हैं ?

## BUSINESS STUDIES <br> (Unit wise Distribution of Marks)

Time Allowed : 3 Hrs.
Max. Marks 85

## PART-A (Priciples and Functions of Management)

Unit - I - Nature and Significance of Management. (6 marks)
Break up : 2+2+2 = (6 marks)
Unit - II - Principles of Management (6 marks)
Break up : $2+4=(6$ marks $)$
Unit - III - Business Environment
Nil
Unit - IV - Planning (6 marks)
Break up : One question of 6 marks (Choice) $=$ (6 marks)
Unit - V - Organising (8 marks)
Break up : $2+3+3=(8$ marks $)$
Unit - VI - Staffing (8 marks)
Break up : $4+4=$ (8 marks)
Unit - VII - Directing (10 marks)
Break up : 5 + 5 = (10 marks)
Unit - VIII - Controlling ( 6 marks)
Break up : One question of 6 marks (choice) $=(6$ marks $)$

## PART-B (Business Finance and Marketing)

Unit - IX - Financial Management (10 marks)
Break up : 2+3+5 = (10 marks)
Unit - X - Capital Market (8 marks)
Break up : 2+2+ 4 = ( 8 marks)
Unit - XI - Marketing Management (12 marks)
Break up : 3 + $4+5=(12$ marks $)$
Unit - XII - Consumer Protection (5 marks)
One question of 5 marks $=(5$ marks $)$

## HISTORY

Time Allowed : 3 hrs.

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## General Instructions :

(1) सभी प्रश्न अनिवार्य हैं।

All questions are compulsory.
(2) 2 अंक वाले प्रश्न का उत्तर लगभग $30-40$ शब्दों में दीजिए।

Give answer to 2 marks question upto 30-40 words.
(3) 3 अंक वाले प्रश्न का उत्तर लगभग 60-80 शब्दों में दीजिए।

Give answer to 3 marks question upto 60-80 words.
(4) 4 अंक वाले प्रश्न का उत्तर लगभग 100 शब्दों में दीजिए।

Give answer to 4 marks question upto 100 words.
(5) 5 अंक वाले प्रश्न का उत्तर लगभग 120 शब्दों में दीजिए।

Give answer to 5 marks question upto 120 words.
(6) मानचित्रों को उत्तरपुस्तिका के साथ धागे से बांधे।

Maps should be securely tied in answer book.
प्र01. सिन्धु घाटी की सभ्यता को हड़प्पा संस्कृति के नाम से क्यों जाना जाता है ? (2)
Indus Valley Civilization is known as Harappan Civilization. Why ?
प्र02. मैगस्थनीज कौन था ?
Who was Megasthenese ?
प्र03. धर्म सूत्र और धर्म शास्त्र क्या हैं ?
What are Dharma Sutras and Dharma Shastras?
प्र04. वर्ण व्यवस्था क्या है ?
What is Varna System?
प्र05. ऋग्वैदिक आर्यों के धार्मिक जीवन के बारे में आप क्या जानते हो ?
(2)

What do you know about the religious life of Rigvedic Aryans ?
प्र06. "बौद्ध धर्म हिन्दू धर्म के अन्तर्गत ही एक सुधारवादी आन्दोलन था।" इस मत की विवेचना करें।
(2)

Examine the view that "Buddhism was a reform movement within Hinduism."
प्र07. अबुल फज़ल आइन-ए-अकबरी की प्रामाणिकता के प्रति सावधान था। कैसे? (2)
Abul Fazal was careful for the reality of Ain-I-Akbari. How?

प्र08. "शेरशाह अकबर का अग्रगामी था।" व्याख्या करें।
"Shershah was a fore-runner of Akbar." Comment.
प्र09. विजयनगर साम्राज्य की स्थापना कब और किसने की ?
(2)

Who was the founder of Vijaynagar Empire and when ?
प्र010. भक्ति आन्दोलन से क्या अभिप्राय है ?
(2)

What do you mean by Bhakti Movement ?
प्र011. इब्नबतूता कौन था ?
(2)

Who was Ibn Buttuta?
प्र012. बंगाल का स्थायी बंदोबस्त क्या है ?
(2)

What is the permanent Settlement of Bengal ?
प्र013. फोर्ट विलियम पर एक संक्षिप्त नोट लिखो
(2)

Write a short note on Fort William.
प्र014. रॉलेट एक्ट क्या था ?
(2)

What was Rowlatt Act ?
प्र015. भारतीय संविधान दुनिया का सबसे लम्बा संविधान क्यों है ?
(2)

Why is the Indian Constitution the longest constitution of the world ?
प्र016. मोहन जोदड़ो क्यों प्रसिद्ध है ?
(3)

Why is Mohenjodaro famous for?
प्र017. मुगल काल में भू-राजस्व प्रणाली की तीन मुख्य विशेषताएं क्या थीं ? (3)
What were the three main features of Land Revenue System under Mughals ?
प्र018. बहमनी और विजयनगर के मध्य संघर्ष के क्या कारण थे ?
(3)

What were the causes of conflict between Bahamani and Vijaynagar ?
प्र019. इस्लाम के पांच स्तंभों के बारे में आप क्या जानते हो ?
(3)

What do you know about Five Pillars of Islam ?
प्र020. अब्दुर रज़्ज़ाक कौन था ?
(3)

Who was Abdur Razzaq ?
प्र021. रैयतवाड़ी बन्दोवस्त क्या है ?
What is Ryotwari System ?

प्र022. 1857 की घटना के लिए लॉर्ड डल्होज़ी को किस सीमा तक ज़िम्मेदार माना जा सकता है ?
(3)

Assess the responsibility of Dalhousie in hastening the events of 1857.
प्र023. भारत में रेल किसने आरम्भ की ? इससे कौन से तीन रेलवे नगर अस्तित्व में आए ?
Who introduced railways in India ? Which were three railways cities came into existance by this?

प्र024. भारतीय संविधान के महत्त्व के कोई चार बिन्दु लिखो।
(3)

Write four important points of Indian Constitution.
प्र025. 1857 ई0 के विद्रोह की प्रकृति क्या थी ?
(4)

What was the nature of the Revolt of 1857 ?
प्र026. भारतीय स्वतंत्रता संग्राम में गांधी जी के योगदान का वर्णन करो।
(4)

Describe the role of Mahatma Gandhi in Indian National Movement.
प्र027. मौर्य साम्राज्य के पतन के क्या कारण थे ?
(5)

What were the causes of the downfall of Mauryan Empire ?
OR
फाह्यान और उसके भारत वृत्तांत पर नोट लिखें।
Write a note on Fahien and his description of India.
प्र028. बाबर के भारत आक्रमण के समय भारत की राजनीतिक अवस्था कैसी थी ? (5)
How was the political conditions of India on the eve of Babur's invasion ?
OR
शेरशाहसूरी के केन्द्रीय शासन प्रबन्ध का वर्णन करो।
Explain the central administration of Sher Shah Suri.
प्र029. भारत विभाजन के क्या कारण थे ?
What were the causes of the Partition of India ?
OR
भारत में सांप्रदायिकता के उदय के क्या कारण थे ?
What were the causes of the rise of communalism in India ?
प्र030. भारत के मानचित्र पर अशोक का साम्राज्य दिखाएं।
Show Ashoka's Empire on the map of India.
OR
भारत के मानचित्र पर राष्ट्रीय आन्दोलन से सम्बन्धित महत्वपूर्ण स्थान दिखाओ। Show the important places related to the National Movement on the map of India.

## ECONOMICS

Time Allowed : 3 hrs.
Maximum Marks : 85

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## General Instructions :

(1) सभी प्रश्न अनिवार्य हैं।

All questions are compulsory.
(2) प्रश्न के सभी भागों का उत्तर एक ही स्थान पर दें।

All parts of one question should be attempted at one place.
(3) प्रत्येक प्रश्न के अंक प्रश्न के सामने दिए गए हैं।

Marks of each question are given in front of it.

प्र01. (i) अर्थशास्त्र से क्या अभिप्राय है ?
What do you mean by Economics?
(ii) आर्थिक क्रिया क्या है ?

What is Economic activity?
(iii) उपयोगिता से आप क्या समझते हैं ?

What do you understand by Utility ?
(iv) बाजार से क्या अभिप्राय है ?

What is meant by Market?

प्र02. आर्थिक समस्या से क्या अभिप्राय है यह क्यों उत्पन्न होती है ?
What is meant by economic problem ? Why does it arise ?

प्र03. सीमान्त उत्पाद तथा औसत उत्पाद में सम्बन्ध बताइए।
Explain the relationship between the Average product and Marginal product.

प्र04. तालिका और रेखा चित्र की सहायता से उपभोक्ता सन्तुलन की व्याख्या कीजिए।
Explain the meaning of Consumer's equilibrium with the help of a table and diagram.

प्र05. मांग में वृद्धि और मांग में कमी की चित्र की सहायता से व्याख्या कीजिए।
Explain increase in demand and decrease in demand with the help of diagram.

प्र06. पूर्ण प्रतियोगिता बाजार की विशेषताओं का वर्णन कीजिए।
Explain the characteristics of a perfect competition market.

प्र07. निम्न तालिका को पूरा कीजिए :
Complete the following table :

| उत्पादन इकाइयां <br> Output Units | कुल लागत <br> Total Cost (TC) | औसत परिवर्तनशील लागत <br> (AVC) Average Variable <br> Cost | सीमान्त लागत <br> (M.C.) Marginal <br> Cost |
| :---: | :---: | :---: | :---: |
| 0 | 100 |  |  |
| 1 | 150 |  |  |
| 2 | 190 |  |  |
| 3 | 220 |  |  |
| 4 | 236 |  |  |
| 5 | 270 |  |  |

प्र08. तालिका और रेखाचित्र की सहायता से औसत आय $A R$ तथा सीमान्त आय $M R$ में सम्बन्ध की व्याख्या करो।
Explain the relationship between AR and MR with the help of diagrams and schedules.

प्र09. सन्तुलन कीमत से आप क्या समझते हैं । मांग तथा पूर्ति की शक्तियां सन्तुलन कीमत को किस प्रकार प्रभावित करती हैं ?

What do you understand by Equilibrium Price ? How does the forces of demand and supply affect the equilibrium price ?

प्र010. मांग की कीमत लोच से क्या समझते हैं ? इसे कैसे मापा जाता है ?
What do you understand by price elasticity of demand ? How is it measured ?

प्र011. घटते-बढ़ते अनुपात के नियम की व्याख्या कीजिए।
Explain the law of variable proportion.

प्र012. पूर्ति का क्या अर्थ होता है ? पूर्ति को प्रभावित करने वाले तत्वों की व्याख्या कीजिए।
What is the meaning of supply ? Explain the factors affecting supply of a commodity.

## OR

(i) मांग वक्र नीचे दाईं ओर क्यों झुकता है ?

Why does demand curve slope down-ward to right ?
(ii) बंधी लागतों तथा परिवर्तनशील लागतों में अन्तर स्पष्ट करें।

Distinguish between the fixed cost and variable cost.

## Hkx \& [ k (PART-B)

प्र013. (i) समष्टि-अर्थशास्त्र से आप क्या समझते हैं ? What do you understand by Macro economics?
(ii) सकल घरेलू उत्पाद से क्या अभिप्राय है ?

What is meant by Gross Domestic Product (GDP)
(iii) वस्तु विनिमय क्या है ?

What is batar system of exchange ?
(iv) उपभोग प्रवृत्ति से क्या अभिप्राय है ?

What is meant by Propesity to consume ?

प्र014. निजि आय तथा वैयक्तिक आय में क्या अन्तर है ?
What is the difference between the private income and personal income ?

प्र015. सामूहिक मांग के तीन संघटकों की व्याख्या कीजिए।
Explain three components of aggregate demand.

प्र016. भुगतान शेष व्यापार शेष में क्या अन्तर है ?
What is the difference between balance of payment and balance of trade ?

प्र017. आधुनिक अर्थव्यवस्थाओं में सरकार के व्यय का महत्त्व स्पष्ट करें।
Clearly explain the significance of Government expenditure in the modern economies.

प्र018. निम्न आंकड़ों से साधन लागत पर घरेलू उत्पाद की गणना करें।
Calculate the domestic product at factor cost in following datas :

| मदें (Item) | (करोड़ रु0) (Crores Rs.) |
| :--- | :---: |
| कर्मचारियों का पारिश्रमिक | 220 |
| Compensation of employees | 180 |
| प्रचालन अधिशेष <br> Operating Surplus <br> मिश्रित आय <br> Mixed Income <br> स्थिर पूंजी का उपभोग <br> Consumption on fixed capital <br> शुद्ध अप्रत्यक्ष कर <br> Net Indirect Taxes(140 |  |

प्र019. मुद्रा के मुख्य कार्य कौन से हैं ?
What are the main functions of money ?

प्र020. केन्द्रीय बैंक से आप क्या समझते हैं ? केन्द्रीय बैंक के कार्य का वर्णन करें। What do you understand by Central Bank ? Explain its function.

प्र021. बजटीय घाटे को नियंत्रित करने के विभिन्न उपायों का वर्णन कीजिए।
Give details of the various measures to control budgetary deficit.

प्र022. निवेश गुणक की परिभाषा दें । निवेश गुणक तथा उपभोग की सीमान्त प्रवृत्ति में क्या सम्बन्ध है ?

Define investment multiplier. What is the relationship between investmentmultiplier and marginal propensity to consume.

प्र023. चार क्षेत्रीय चक्रीय प्रवाह माडल की व्याख्या कीजिए।
Explain four sector circular flow of income model.

प्र024. भुगतान शेष के असन्तुलन से क्या अभिप्राय है ? यह किन कारणों से होता है, व्याख्या करें।

What is meant by disequilibrium in the balance of payments ? What are its causes ?
Explain.
OR
संक्षिप्त नोट लिखो :
Write short notes on :
(i) अधिमांग किसे कहते हैं ? उत्पाद और कीमतों पर इसका क्या प्रभाव होता है ?

What is excess demand ? What is its impact on output and price ?
(ii) विनिमय दर की परिवर्तनशील प्रणाली की संक्षिप्त व्याख्या करें।

Write short explanation of variable system of exchange.

## POLITICAL SCIENCE

Time Allowed : 3 hrs.

## I kekb fun룽

(1) सभी प्रश्न अनिवार्य हैं।
(2) 2 अंक वाले प्रश्नों का उत्तर 40 से 60 शब्दों में।
(3) 3 अंक वाले प्रश्नों का उत्तर 60 से 75 शब्दों में।
(4) 5 अंक वाले प्रश्नों का उत्तर 125 से 150 शब्दों में।
(5) 6 अंक वाले प्रश्नों का उत्तर 200 से 250 शब्दों में।

## General Instructions :

(1) All questions are compulsory.
(2) Answer to 2 marks question should be between 40 to 60 words.
(3) Answer to 3 marks question should be between 60 to 75 words.
(4) Answer to 5 marks question should be between 125 to 150 words.
(5) Answer to 6 marks question should be between 200 to 250 words.

प्र01. एक दलीय प्रभुत्व क्या है ?
What is one party dominance ?
प्र02. कांग्रेस में फूट कब पड़ी ?
When did the split take place in Congress ?
प्र03. गरीबी हटाओ का क्या अर्थ है ?
What do you mean by 'Garibi Hatao'.
प्र04. धारा 370 पर एक नोट लिखो।
Write a note on Article 370.
प्र05. दो क्षेत्रीय दलों के नाम लिखो।
Write the names of two regional parties.
प्र06. चिपको आन्दोलन का आरम्भ कैसे हुआ ?
How did Chipko Andolan begin?
(2)

प्र07. गठबन्धन की राजनीति का क्या अर्थ है ?
What do you mean by Coalition politics ?
प्र08. संयुक्त प्रगतिशील गठबन्धन पर नोट लिखो।
Write a note on UPA (United Progressive Alliance)

प्र09. वैश्वीकरण का क्या अर्थ है ?
What do you mean by Globalisation ?
प्र010. आयोध्या विवाद क्या है ?
What is Ayodhya dispute?
प्र011. भारत चीन सीमा विवाद क्या है ?
What is Indo China border dispute ?
प्र012. ASEAN के दो उद्देश्य लिखो।
Write two aims of ASEAN.
प्र013. श्रीलंका में जातीय संघर्ष के दो कारण लिखो।
Write two causes of ethnic conflict in Sri Lanka.
प्र014. दक्षिण एशिया क्या है ?
What is South Asia ?
प्र015. संयुक्त राष्ट्र की स्थापना कब हुई थी ? उस समय इसके कितने सदस्य थे ?
When was U.N. established ? How many countries were its members at that time ?

प्र016. संयुक्त राष्ट्र के महासचिव कौन हैं ?
Who is Secretary General of U.N. ?
प्र017. निःशस्त्रीकरण क्यों आवश्यक है ?
Why disarmament is necessary ?
प्र018. मानवीय अधिकारों से क्या अभिप्राय है ?
What do you mean by human rights ?
प्र019. प्रथम तीन चुनावों में मुख्य विपक्षी दल कौन से थे ?
Who were the major opposition parties during first three elections ?
प्र020. राष्ट्र निर्माण सम्बन्धी नेहरू जी के दृष्टिकोण की व्याख्या करें।
Explain Nehru's approach to nation building.
प्र021. वचनबद्ध नौकरशाही से आपका क्या अभिप्राय है ?
What do you mean by committed bureaucracy ?
प्र022. 1977 के चुनाव तथा जनता पार्टी के गठन का वर्णन करें।
Explain 1977 Election and Formation of Janta Party.

## प्र023. सूचना के अधिकार की विशेषताएं लिखो।

Write the characteristics of right to information.
प्र024. शीत युद्ध के तीन कारण लिखो।
Write three causes of Cold War.
प्र025. हरित क्रान्ति तथा इसके राजनीतिक कुप्रभावों का वर्णन करें।
Explain green revolution and its political fallouts.
प्र026. नेहरू जी की विदेश नीति के मुख्य सिद्धान्तों का वर्णन करो।
Explain the main principles of Nehru's Foreign Policy.
प्र027. द्विध्रुवीयकरण के लाभ तथा हानियाँ लिखो।
Write merits and demerits of bi-polarity.
प्र028. भारत रूस सम्बन्धों की व्याख्या करें।
Explain Indo-Russia relations.
प्र029. एक ध्रुवीय व्यवस्था से आप क्या समझते हैं ? इसके मुख्य कारण लिखो। What do you understand by Unilateralism ? Write its major causes.

प्र030. वैश्वीकरण क्या है ? इसके उद्भव के लिए उत्तरदायी कारकों की व्याख्या करें।
What is Globalisation ? Explain the factors responsible for its emergence.

## GEOGRAPHY

Time Allowed : 3 hrs.

सभी प्रश्न अनिवार्य हैं।
All questions are compulsory.

प्र01. (अ) दिए गए विश्व के रेखा मानचित्र में निम्नलिखित को दर्शाइए :
(1) ट्रांस-साइबेरिया रेलमार्ग दो स्टेशनों सहित।
(2) विश्व के दो मुख्य वैश्विक नगर।
(A) On the outline map of the world locate the following :
(i) Trans Siberian Railway with two stations.
(ii) Two main Global cities of the world.
(ब) दिए गए भारत के रेखा मानचित्र में निम्नलिखित को दर्शाइए :
(1) भारत की वित्तीय राजधानी
(2) न्यूनतम साक्षरता दर वाला राज्य
(3) भारत के दो चाय उत्पादक क्षेत्र
(B) On the outline map of India locate the following :
(i) Commercial Capital of India.
(ii) State with the lowest literacy rate.
(iii) Two tea producing areas of India.

प्र02. विश्व में भूख तथा कुपोषण की समस्या का वर्णन कीजिए तथा बताइए कि इनसे सुरक्षा कैसे सुनिश्चित की जा सकती है ?
Discuss the problem of hunger and malnutrition in the world and also explain that how can we secure ourselves from this problem?

प्र03. अन्तर्राष्ट्रीय व्यापार के आधार की विवेचना कीजिए।
Give a detailed account of the basis of International Trade.

प्र04. "खनिजों का अस्तित्व कुछ निश्चित भूर्गार्भक संरचनाओं से जुड़ा है।" स्पष्ट कीजिए।
"Existence of minerals is linked with some specific Geologic structural formation."
Discuss.

प्र05. विश्व में जनसंख्या वितरण तथा घनत्व को प्रभावित करने वाले कारकों की विवेचना कीजिए।
Discuss the factors affecting the distribution and density of population in the world.

प्र06. विकासशील देशों में नगरीय बस्तियों की समस्याओं की विवेचना कीजिए। (4)
Discuss in detail the problems of Urban Settlements in Developing Countries.

प्र07. "भारत की विविधता में एकता के दर्शन होते हैं।" इस कथन की व्याख्या कीजिए। "It is Unity in Diversity in India." Discuss.

प्र08. ग्रामीण बस्तियों के विविध प्रतिरूपों का वर्णन कीजिए।
Explain the different patterns of Rural Settlements.

प्र09. प्रदूषण तथा प्रदूषक में अन्तर स्पष्ट कीजिए। भारत में जल प्रदूषण के स्वरूप का वर्णन कीजिए।
Differentiate between pollution and pollutant. Discuss the form of water pollution in India.

प्र010. मानव भूगोल पृथ्वी तथा मानव के पारस्परिक सम्बन्ध का विज्ञान है। व्याख्या कीजिए। Discuss that Human Geography is the science of inter relationship between earth and man.

प्र011. चलवासी पशुचारण तथा व्यापारिक पशुचारण में अन्तर स्पष्ट कीजिए।
Differentiate between Nomadic Herding and Commercial grazing.

प्र012. चाय की कृषि के लिए कौन सी भगौलिक दशायें चाहिये ? वर्णन कीजिए।
Discuss the Geographical conditions required for the cultivation of Tea.

प्र013. स्वेज़ नहर मार्ग का विवरण करें।
Discuss about the Suez Canal Route.

प्र014. उत्तरी अटलांटिका मार्ग सबसे व्यस्त मार्ग क्यों है ?
Why is North Atlantic Route the busiest in the world ?

प्र015. भारत में जलाभाव की समस्याएँ कौन सी हैं ?
What are the problems of water scarcity in India ?

प्र016. "गहन कृषि अधिक जनसंख्या वाले क्षेत्रों की विशेषता है।" इस कथन की व्याख्या कीजिए।
"Intensive agriculture is the feature of highly populated areas." Discuss.

प्र017. अन्तर स्पष्ट करें :
(2)
(क) परिवहन
(ख) संचार
(ग) संप्रेषण

Differentiate between :
(a) Transportation
(b) Communication
(c) Transmission

प्र018. परिवहन राष्ट्रीय अर्थव्यवस्था का महत्वपूर्ण खण्ड क्यों है ?
Why is Transportation an important segment of National Economy.

प्र019. मुक्त आकाश नीति से क्या अभिप्राय है ?
What is meant by Free Air Policy?

## GEOGRAPHY (PRACTICAL)

Time Allowed : 3 hrs.
Maximum Marks : 25

Note : (i) Attempt any two questions from Section A and any one question from Section B.
(ii) Credit will be given for neat and clean diagrams and calculations.

## SECTION-A

(1) What is statistical data ? What are its types ? Explain in brief.
(5)
(2) Calculate the Arithmatic mean for the following data :

Marks obtained : 75, 42, 40, 30, 36, 42, 39, 52, 72, 60
(3) Draw a star diagram (Wind Rose) for Mumbai on the basis of data given below :

Directions: N NE E SE S SW W NW Calm
No. of days: $\begin{array}{llllllllll}33 & 25 & 30 & 11 & 16 & 14 & 99 & 106 & 1\end{array}$
(4) Explain the merits and demerits of a choropleth map in the series of distribution of maps.
(5) Differentiate between Hardware and Software of a computer in detail.

## SECTION-B

(6) What is field study ? How would you conduct the field study on any one of the following topics?
(i) Land use and Land use changes
(ii) Pollution
(iii) Ground water changes
(iv) Energy Issues
(v) Poverty
(7) What are the sources of GIS data ? Explain Spatial Information Technology.(8)

4 marks for Practical File
3 marks for Viva Voce.

## PSYCHOLOGY

Time Allowed : 3 hrs.

नोट : किन्हीं पाँच प्रश्नों के उत्तर दीजिए। उत्तर संक्षिप्त एवं तर्कसंगत होने चाहिए।
Attempt any five questions. Answers should be brief and to the point.

प्र01. बुद्धि को परिभाषित करें। बुद्धि के विभिन्न सिद्धान्तों की व्याख्या करें।
Define intelligence. Describe the various theories of intelligence.
प्र02. व्यक्तित्व मापन की विभिन्न विधियों की व्याख्या करें।
Describe the various methods of personality assessment.
प्र03. असामान्य व्यवहार से आप क्या समझते हैं ? असामान्य व्यवहार के कारण कौन-कौन से हैं ?

What do you understand by abnormal behaviour ? What are the various causes of abnormal behaviour ?

प्र04. मनोचिकित्सा की प्रकृति और प्रक्रिया की व्याख्या करें।
Describe the nature and process of psycho-therapy.
प्र05. अभिवृत्ति को परिभाषित करें। अभिवृत्तियां किस प्रकार से निर्मित होती हैं ? क्या अभिवृत्ति में परिवर्तन लाया जा सकता है ? व्याख्या करें।

Define attitude. How the attitudes are formed ? Is it possible to change attitudes ?
Explain.
प्र06. समूह किसे कहते हैं ? समूह कैसे बनते हैं और समूह कितने प्रकार के होते हैं ?
What is a group ? How the groups are formed and what are their types ?
प्र07. मानव-पर्यावरण सम्बन्ध की व्याख्या करें। पर्यावरण किस प्रकार से मानव व्यवहार को प्रभावित करता है ?
Describe human-environment relationship. How do environment affect human behaviour?

प्र08. किन्हीं दो पर संक्षिप्त टिप्पणी करें :
(क) प्रभावकारी मनोवैज्ञानिक कौशल,
(ख) प्रतिबल का मानसिक स्वास्थ्य पर प्रभाव,
(ग) व्यक्तित्व का प्रकार उपागम, (घ) सृजनशीलता

Write short notes on any two :
(a) Effective psychological skills.
(b) Effects of stress on psychological health.
(c) Type theory of personality
(d) Creativity

## SOCIOLOGY

Time Allowed : 3 hrs.

नोट : (1) सभी प्रश्न अनिवार्य हैं।
All the questions are compulsory.
(2) 1 अंक के प्रश्न के उत्तर 10 से 15 शब्दों में दीजिए।

Answer to 1 mark question be given in 10-15 words.
(3) 2 अंकों के प्रश्नों के उत्तर 25 से 30 शब्दों में दीजिए।

Answers to 2 marks question be given in 25-30 words.
(4) 3 अंकों के प्रश्नों के उत्तर 45 से 50 शब्दों में दीजिए।

Answers to 3 marks question be given in 45-50 words.
(5) 4 अंकों के प्रश्नों के उत्तर 70 से 75 शब्दों में दीजिए।

Answers to 4 marks question be given in 70-75 words.
(6) प्रत्येक प्रश्न के अंक प्रश्न के सामने दर्शाये गए हैं।

Marks allotted to each question are mentioned against the question.

प्र01. भारत में अनेकता में एकता का संक्षिप्त वर्णन करें।
(2)

Explain in brief Unity in Diversity in India.

प्र02. भारतीय जनसंख्या नीतियों की कौन सी उपलब्धियाँ हैं ?
(2)

What are the achievements of India's Population Policy ?

प्र03. ग्रामीण समुदाय व नगर समुदाय में अन्तर लिखें।
(3)

Distinguish between Village Community \& Urban Community.

प्र04. संयुक्त परिवार में विघटन लाने वाले कारकों की चर्चा करो।
(3)

Discuss the factors responsible for Disorganisation of Joint Family.

प्र05. परिवार की कोई दो उपयुक्त परिभाषाएँ लिखो।
(2)

Write any two appropriate definitions of family.

प्र06. नातेदारी संज्ञाओं की व्याख्या कीजिए।
(2)

Describe the kinship terms.

## प्र07. जाति व वर्ग में अन्तर कीजिए।

Distinguish between Caste and Class.

प्र08. जनजाति की पाँच विशेषताएँ लिखिए।
Write five characteristics of a tribe.

प्र09. बाजार के आवश्यक तत्व कौन से हैं ?
Which are the essential elements of market ?

प्र010. राष्ट्रीय पिछड़ा वर्ग आयोग क्या है ? वर्णन करें।
What is National Backward Classes Commission ? Explain.

प्र011. जातिपूर्वाग्रह की पृष्ठभूमि को स्पष्ट करो।
(3)

Explain the background of Caste Prejudice.

प्र012. सीमान्तीकरण का क्या अर्थ है ?
What is Marginalization ?

प्र013. भारतीय समाज में स्त्रियों की निम्न स्थिति के कारण बताइये।
Discuss the causes of Lower Status of women in Indian Society.

प्र014. मुस्लिम अल्पसंख्यकों पर एक टिप्पणी लिखो।
Write a note on Muslim minorities.

प्र015. विकलांगों के लिए किये जा रहे कल्याण कार्यक्रमों को संक्षिप्त में बताइये।
Discuss in brief the welfare activities being done for disabled.

प्र016. पितृसत्ता पर एक संक्षिप्त लेख लिखो।
Write a brief essay on Patriarchy.

प्र017. क्षेत्रीयतावाद क्या है ?
What is regionalism ?

प्र018. भारतीय समाज में अनेकता में एकता की चुनोतियाँ कौन सी हैं ?
(2)

What are the challenges of Unity in Diversity in Indian Society ?

## प्र019. बहुल समाज का संक्षिप्त में वर्णन करें।

Explain in brief the Plural Society.
प्र020. सामाजिक असमानता का क्या अर्थ है ?
What is meant by social Inequality.

प्र021. शिक्षा के महत्व का वर्णन करें।
Explain the importance of Education.

प्र022. औद्योगिकरण की विशेषताएँ बताइये।
Write the characteristics of Industrialization.

प्र023. नगरीकरण की विशेषतायें लिखें।
Write the characteristics of Urbanization.

प्र024. पश्चिमीकरण व संस्कृतिकरण में अन्तर लिखें।
(2)

Write the differences between Westernization and Sanskritization.

प्र025. ब्रह्म समाज पर टिप्पणी लिखिए।
Write a note on Brahmo Samaj.

प्र026. भारतीय समाज पर पंचवर्षीय योजनाओं के प्रभाव लिखो।
Write the effects of Five Year Plans on Indian Society.

प्र027. राजनीतिक दलों के लाभ व हानियों का वर्णन करो।
Discuss the advantages and disadvantages of Political Parties.

प्र028. पंचायत समिति पर एक नोट लिखिए।
(2)

Write a note on Panchayat Samiti.

प्र029. हरित क्रान्ति के प्रभावों की व्याख्या करो।
Explain the effects of Green Revolution.

प्र030. नियोजित औद्योगिकीकरण का संक्षिप्त में वर्णन करें।
Explain in brief Planned Industrialization.

## प्र031. वर्ग संरचना और परिर्वतन पर नोट लिखो।

Write a note on class structure and change.
प्र032. जनसंचार व सांस्कृतिक परिवर्तन पर नोट लिखिए।
(4)

Write a note on mass media and cultural change.

प्र033. भूमण्डलीकरण के प्रभावों की चर्चा करो।
Discuss the effects of Globalization.

प्र034. सामाजिक आन्दोलन का संक्षिप्त में वर्णन करें।
Explain in brief the Social Movement.

प्र035. पिछड़ी जातियों के आन्दोलन से आप क्या समझते हैं ?
(2)

What do you understand by movement of Backward Classes.

प्र036. महिला आन्दोलन पर नोट लिखिए।
Write a note on Women Movement.

## प्र037. जनजातीय आन्दोलन क्या है ? <br> What is Tribal Movement?

प्र038. पर्यावरण का अर्थ लिखो।
Write the meaning of environment.

## 

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## [kM\&d ¹/4ifBr vockskue ${ }^{1 / 2}$

प्र01. अधोलिखितं गद्यांश पठित्वा प्रश्नानामुत्तराणि लिखत -
प्रतिदिनं मानवानां मनसि विविधानां मनोरथानां उत्पत्तिर्जायते। मनोरथानां कोऽपि अन्तः नास्ति। अपुत्रः पुत्रमिच्छति, अविधः विद्यामिच्छति तथा च निर्धनः धनमिच्छति। अत्रापि शताधि ापतिः सहसं, सहस्राधिपतिः लक्षं, लक्षाधिपतिः कोटिमिच्छति। परं मनुष्यः इच्छामात्रेण न कमपि प्राप्तुं शक्नोति। उद्यमेनेतत् सम्भवति। उद्यमेन कार्याणि सिध्यन्ति। एतेन मानवानां सुख समृद्धिर्जायते। उद्यमेन निर्धनोऽपि धनं लभते।
प्रश्ना :- (क) एकपदेन उत्तरत -
मानवानां मनसि किं जायते ?
(ख) पूर्णवाक्येन उत्तरत -
(1) अपुत्रः, निर्धनः, लक्षाधिपति च किम् इच्छन्ति ?
(2) अस्य गद्यांशस्य शीर्षक लिखत।
(ग) (1) 'सिध्यन्ति’ इति पदे धातुः लकारश्च निर्दिशत।
(2) 'उद्यमेनैतत्' इति पदस्य प्रकृति रूपं निदिर्शत्।
(3) "अविधः विद्यामिच्छति" अत्र विशेषणपदं किमस्ति ?
(4) 'सधनः' इति पदस्य विलोम पदं लिखत।

प्र02. अधोलिखितम् अनुच्छेदं पठित्वा तदाधारितानां प्रश्नानामुत्तराणि लिखत -
कालिदासो हि सर्वश्रेष्ठः कविरस्ति। कालिदासस्य सप्तकृतयः सन्ति-द्वे काव्ये, द्वे गीतिकाव्ये, त्राणि च नाटकानि। नाटकेषु अभिज्ञान-शकुन्तलम् नाटकम् सर्वोत्कृष्ट्म अस्ति। अस्मिन नाटके शकुन्तलायाः दुष्यन्तस्य च प्रणयकथा वर्णिता अस्ति। भावसौष्ठवेन, भाषामाधुर्येण, प्रकृतिवर्णनेन, अलंकार कौशलेन, रसपरिपाकेन च इदं नाटकम् अतीव रमणीयम् अस्ति। अतएव कथ्यते काव्येषु नाटकं रम्यं तत्र रम्या शकुन्तला। कविता कामिनीकान्तः कालिदासः उपमा प्रयोगे विशेषतः - निष्णातः अस्ति।
प्रश्ना :- (क) एकपदेन उत्तरत -
(1) सर्वश्रेष्ठः कविः कः अस्ति ?
(2) सर्वोत्कृष्टं नाटकं किमस्ति ?
(ख) पूर्णवाक्येन उत्तरत -
अभिज्ञान शकुन्तले का कथा अस्ति ?
(ग) 'कथ्यते' - इति पदे धातु लकारः वचनश्च निर्दिशत्।
(घ) "कविताकामिनीकान्तः" इति कस्य पदस्य विशेषणम् अस्ति।
(ङ) "सर्वोत्तम:" अस्य पर्यायवाचिपदं किम् ?
(च) "नाटकं रम्यम्" अत्र विशेष्यं किम् ?
(छ) अस्य गद्यांशस्य समुचितं शीर्षक लिखत।

## 

प्र03. प्रदत्त शब्दसूची-साहाय्येन उचित पदानि चित्वा रिक्त स्थानपूर्ति करवीया एकस्मिन् देवालये ताम्रचूडनाम $\qquad$ वसति र्म। स: $\qquad$ देशाटनं कृत्वा जीविका निर्वाहं करोति स्म। एकदा भिक्षां $\qquad$ संस्थाप्यं नागदन्ते अवलम्व्य स: $\qquad$ । एक
मूषक: उत्कृत्य उत्कृत्य भिक्षापात्रस्था सर्वां $\qquad$ अखादत्। सः खिन्नः तत्र अधः भूमौ $\qquad$ स: तत्रस्थं ........... आदाय सुप्तः तदा मूषकः उत्कुर्तुम् न ..........। परिव्राजकः ............. धनं हृत्वा प्रसन्नो - अभवत्।

## est Wk

(भिक्षाम्, अस्वपत्, प्रत्यहं, भिक्षापात्रे, पीरव्राजकः, मूषकस्य, अखनत्, अशक्नोत)

प्र04. अधोलिखित - संकेतपदानि आधृत्य एकं अनुच्छेदं लिखत -

## I a s in ifu

प्रतिदिनम कर्तव्यम्, वरदानम, स्वस्थंमन, परिश्रमात् न विरमति, रक्त संचालनम् पाचन शक्तिः, शरीरस्य रसायनम्।

## 

प्र05. अधोलिखितं गद्यांश पठित्वा तदाधारित - प्रश्नानामुत्तराणि लिखत -
एवं समतिक्रामत्सु दिवसेषु राजा चन्द्रापीडस्य यौवराज्याभिषेकं चिकीर्षु: प्रतीहारानुपकरण संभार संग्रहणार्थमादिदेश। समुपरिथत यौवराज्याभिषेकं च तं कदाचित् दर्शनार्थमागतभारूढविनयमपि विनीततरमिच्छन् कर्तुं शकुनासः सविस्तरमुवाच -
प्रश्ना :- (क) एकपदेन उत्तरत -
(1) कस्य राज्याभिषेकं कर्तुं राजा आदिदेश।
(2) आरूढविनयमपि विनीतरं कर्त्तुं क: उवाच ?
(ख) पूर्णवाक्येन उत्तरत -
राजा किम् आदिदेशः ?
(ग) (i) ‘गतम’ इति पदस्य किं विलोमपदं प्रयुक्तम् ?
(ii) 'कर्तुम' इति पदे प्रकृति प्रत्ययं निर्दिशतः ?

प्र06. अधोलिखितं पद्यांश पठित्वा तदाधारितानां प्रश्नानामुत्तराणि लिखत तमध्वरे विश्विजिति क्षितीशं, निःशेषविश्राणितकोष जातम्।
उपात्तविधो गुरूदक्षिणार्थी, कौत्सः प्रपेदे वरतन्तु शिष्यः।।
प्रश्ना :- (क) एकपदेनोत्तरत -
(1) वरतन्तोः शिष्यः कः आसीत् ?
(2) नृपः कं अध्वरं कृतवान ?
(ख) पूर्णवाक्येन उत्तरत -
राज्ञः अध्वरे कः किमर्थं प्रपेदे ?
(ग) 'नृपम्' इति पदस्य स्थाने किम् पदं प्रयुक्तम् ?
(घ) "प्रपेदे" इति क्रियापदस्य को कर्त्ता ?

प्र07. अधोलिखितं नाट्याशं पठित्वा तदाधारितानां प्रश्नानामुत्तराणि लिखत हे वटव ! परिवृत्य लौष्ठैरभिध्नन्तः उपनयतैनमश्वम्।
एष रोहितानां मध्येचरो भवेत्।
प्रश्ना :- (क) एकपदेनोत्तरत -

> (1) क: रोहितनां मध्येचरो भवेत ?
> (2) अश्वं कै: अभिधनन्तः ?
(ख) पूर्णवाक्येनोत्तरत -
क: कान् प्रति कथयति ?
(ग) 'एष' इति सर्वनाम पदं कस्य संज्ञा पदस्य स्थाने प्रयुक्तम् ?
(घ) 'मृगाणां' इति स्थाने किं पदं प्रयुक्तम् ?
(ङ) 'आनयत्' इत्यस्य विलोम पदं लिखत।

प्र08. रेखांकित कथनानि आश्रित्य प्रश्न निर्माणं कुरूत -
(1) विद्धान अविधया मृत्युं तरति।
(2) इयं लब्धाऽपि खलु दु:खेन परिपाल्यते।
(3) अश्वमेध इति नाम क्षत्रियाणां महान उत्कर्षः।
(4) अस्ताचल गमन काले भास्करस्य वर्णः अरूणः भवति।

प्र09. अधोलिखित शब्दानाम अर्थ लिखत :
उत्सङेग, मराल, पलाण्डुत्वक, उद्भिज्जः
प्र010. भावार्थं स्पष्टीकुरूत -
(क) तेन व्यक्तेन भुञ्जीथाः।
(ख) सन्मित्रलक्षणमिदं प्रवदन्ति सन्तः।
प्र011. अधोलिखितस्य श्लोकस्य प्रदत्तान्वये रिक्त स्थानानिपूर्तिं कृत्वां लिखत न हि कश्चित्क्षणमपि जातु तिष्ठत्यकर्मकृत। कार्यते ह्यवशः कर्म सर्वः प्रकृति जैगुणैः।।

अन्वय - जातु $\qquad$ क्षणम् अपि $\qquad$ न तिष्ठति, हि सर्व: $\qquad$ प्रकृति
जै $\qquad$ कर्म कार्यते।

प्र012. संस्कृतेन उत्तरत -
(क) उपार्जितानां वित्तानां रक्षणं कथं भवति ?
(ख) केषाम् उपदेष्टारः विरलाः सन्ति ?
(ग) आश्रमे के लालिताः पालिताश्च भवन्ति ?
(घ) वृद्धोपदेशं ते राजानः किमिति पश्यन्ति ?
(ङ) सत्कविं कौ द्वौ उपेक्षते ?
प्र013. (क) 'महाकवि कालिदासस्योपरि' हिन्दी भाषायां संक्षिप्त परिचयं लिखत।
'अम्बिकादत्तव्यास्य' विषये संक्षिप्त परिचयं हिन्दी भाषायाम् लिखत।
(ख) रघुकौत्ससंवादः अथवा शुकनासोपदेशः पाठस्य सारं हिन्दी भाषायाम् लिखत।

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प्र014. (अ) (1) 'चक्षुषा' इति पदे क: गणः ?
(2) शिखरिणी छन्दसि प्रतिचरणं कति वर्णाः सन्ति ?
(आ) कयोः द्वयोः छन्दसोः उदाहरण-परिभाषा संगति सहित लिखत् :
उपजाति, शार्दूलविक्रीड़ित, मालिनी

प्र015. (क) रिक्त स्थानानि पूरयत -
(1) श्लिष्टे: पदेः ............ श्लेष उच्यते।
(2) ............. शब्दसाम्यं बैषम्येऽपि स्वरस्य यत्।
(ख) कयोः द्वयोः अलंकारयोः परिभाषा, उदाहरणं संगति सहित लिखत :
उपमा, अनुप्रास, अर्थान्तरन्यास

## PHYSICALEDUCATION

Time Allowed : 3 hrs.
Maximum Marks : 60

1. परीक्षार्थी यथासंभव अपने शब्दों में ही उत्तर दें।
2. प्रत्येक प्रश्न के अंक सामने दिए गए हैं।
3. The candidates are required to give their answers in their own words as far as practicable.
4. Marks allotted to each question are indicated against it.

नोट : (1) प्रत्येक परीक्षार्थी को कुल सात प्रश्न करने होंगे। तीन प्रश्न भाग-1 से, दो-दो प्रश्न भाग-2 और भाग-3 से।
A candidate is required to attempt seven questions in all i.e. three from Part-I and two each from Part II and III.
(2) प्रत्येक प्रश्न के सभी भाग एक साथ हल कीजिए।

Attempt all the parts of a question together.

## Hox \& 1 (PART-I)

प्र01. उन सभी तत्वों का संक्षेप में वर्णन करें जो अरोग्यता एवं सुयोग्यता को प्रभावित करते हैं। Write short note on the factors which effect the fitness and wellness.

OR
एरोबिक क्रियाएं किस तरह से शारीरिक पुष्टि को विकसित करती हैं ?
How Aerobic activities develop the Physical Fitness ?

प्र02. खेल पक्षिशण से आप क्या समझते हैं ? शक्ति विकास की विधियों का विस्तृत वर्णन करें। What do you understand by methods of training ? Explain the different methods of strength development.

## OR

टिप्पणी लिखें -
(1) फार्टलेक प्रशिक्षण विधि
(2) लिम्बरिंग डाऊन
(3) आइसोमीट्रिक व्यायाम

Write short notes on :
(1) Fartlek Training
(2) Limbering down
(3) Isometric Methods

प्र03. शारीरिक शिक्षा के कार्यक्रमों द्वारा सामाजिक गुणों के विकास का वर्णन करें।
Write down social values which are developed through the Physical Education Programmes.

OR

समाजशास्त्र की परिभाषा दीजिए। शारीरिक शिक्षा एवं खेलकूद में इसके महत्व का वर्णन करें। Define Sociology. Describe its importance in physical education and sports.

## Hkx \& 2 (PART-II)

प्र04. अपनी पसन्द के किसी एक खेल का इतिहास और प्रमुख कौशलों का वर्णन करें।
Write down the history of any game of your choice and explain its Rules and Regulations.

OR
शारीरिक शिक्षा में धावक पथ क्रियाओं की क्या भूमिका है ? लम्बी कूद में शारीरिक क्षमता का प्रयोग कैसे किया जाता है ?
Define the role of track and field events in Physical Education. How the Physical Strength is used in Long Jump ?

प्र05. अपनी पसन्द के किसी भी खेल के प्रसिद्ध टूर्नामेन्टस व खेल पुरस्कारों को लिखिए।
Write about the famous Tournaments and awards of any game of your choice. (4, 3) OR
ओलंपिक खेलों के संक्षिप्त इतिहास का वर्णन करें।
Define the history of Olympic Games in brief.

## Hkx \& 3 (PART-III)

प्र06. वातावरण से क्या भाव है ? वातावरण के क्षेत्रों का विस्तार से वर्णन करें।
What is the concept of Environment ? Write in detail about the scope of Environment.

OR
आपदा क्या होती है, यह कितनी प्रकार की होती हैं ? विस्तार से लिखें।
What is disaster ? Write in detail about its types.
प्र07. परिवार का क्या अर्थ है ? इसके क्या कार्य होते हैं ? विस्तार से लिखें। What is the meaning of a family ? Describe its functions in detail. OR
संक्षिप्त नोट लिखें :
(1) स्प्रेन
(2) एलवो लेटरल एपीकोंडीलस
(3) खेल चोटों को रोकने के उपाय

Write short note on :
(1) Sprain
(2) Elbow Lateral Epicondylits
(3) Measures for the Preventive of sports injuries.

## INFORMATICS PRACTICES

Time Allowed : 3 Hrs.
Max. Marks 60

Note : All questions are compulsory.

Q1. State whether the following statements are True or False :
निम्नलिखित कथन में सही व गलत बताइए :
i) GNU / Linux is a open source software operating system.

GNU / Linux एक open source software operating system है।
ii) DBMS is defined as a collection of interrelated data.

DBMS एक interrelated Data समूह है।
iii) Modules and Procedures are the basic structure of a VB program . Modules और Procedures, VB Program के Basic structure हैं।1
iv) You can not create dynamic array in Visual Basic.

आप Visual Basic में dynamic array create नहीं कर सकते हैं।
1
v) MDI stands for Multiple Data Interface.

MDI का अर्थ Multiple Data Interface है।
vi) ROLL BACK is a database transaction feature.

ROLL BACK एक Database transaction की विशेषता है।
vii) Like SQL, PL / SQL is a case sensitive.

SQL की तरह PL/SQL case sensitive है।1
viii) A Lexical unit is a sequence of characters.

Lexical unit, characters की एक sequence है।
ix) A module is a logically grouped set of SQL and PL / SQL statements. Module SQL और PL/SQL statements का एक logically grouped set है। 1
x) DROP TRIGGER Command is not used to drop the trigger.

DROP TRIGGER Command, Trigger drop करने के प्रयोग में नहीं आती है। 1

Q2. (a) What is Freeware and Shareware. Explain.
Freeware और Shareware क्या हैं ? व्याख्या कीजिए।
(b) Explain Human Resource Development System.

Human Resource Development System की व्याख्या कीजिए।
OR
(a) Write the components of open source based software and explain them in short.

Open source based software के components को संक्षिप्त रूप में लिखिए।
(b) What are the characterstics of a Dataware house ? Explain.

Dataware house की विशेषताएँ क्या हैं ? व्याख्या कीजिए।

Q3. (a) What are the advantages of Procedures ? Explain them.
Procedures की क्या advantages हैं ? व्याख्या कीजिए।
(b) Explain the following Modules :
(i) Class Modules
(ii) Standard Modules

निम्नलिखित Modules की व्याख्या कीजिए :
(i) Class Modules
(ii) Standard Modules

## OR

(a) What do you mean by control structure ?

Control structure से आप क्या समझते हैं ?
(b) Explain the following function in VB
(i) $\operatorname{str}()$
(ii) Len ( )
(iii) RTrim ( )
(iv) Chr ( )

निम्नलिखित VB function की व्याख्या कीजिए :
(i) $\operatorname{str}()$
(ii) Len ( )
(iii) RTrim ( )
(iv) Chr ( )

Q4. (a) Write a program in Visual Basic to find sum of 10 numbers.
दस अंकों का जोड़ ज्ञात करने के लिए Visual Basic में एक program लिखिए। 4
(b) What do you mean by Single Document Interface (SDI)

Single Document Interface (SDI) से आप क्या समझते हैं ?
(c) What is ADO ? Explain.

ADO क्या है ? व्याख्या कीजिए।

Q5. (a) What do you understand by SQL and explain the following SQL functions.
(i) Single Row Function
(ii) Character Function

SQL से आप क्या समझते हैं ? निम्नलिखित SQL function की व्याख्या कीजिए :
(i) Single Row Function
(ii) Character Function
(b) What do you understand by data base transactions ?

Data base transactions से आप क्या समझते हैं ?
OR
(a) Define Data Replication. Explain.

Data Replication क्या है ? व्याख्या कीजिए।
(b) Explain properties of Database Transactions.

Data base transactions की विशेषताओं की व्याख्या कीजिए। 5
Q6. (a) Write PL/ SQL Code to display series of numbers 2, 4, 6, 8, . . . 100 .
$2,4,6,8, \ldots 100$ series को display करने के लिए PL/SQL code लिखिए।
(b) Differentiate between implicit cursors and explicit cursors.

Implicit cursors और explicit cursors के बीच अन्तर बताइए।
(c) What is trigger ? What are the limitations of using triggers ?

Trigger क्या है ? Triggers का उपयोग करने की क्या limitations हैं ?

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प्र01. अपने पाठ्यक्रम में से कोई एक बिलम्बित गत आरोह अवरोह पकड़ और चौगुन के दो तोड़ों सहित लिखिये।

Write one Maseetkhani Gat from your syllabus along with Aroh, Avaroh and Pakad and two Todas of Chaugun Laya.
(5)

प्र02. झपताल एवं रूपक ताल को एकगुन तथा दुगुन लयकारियों में लिखिए। Write Ghaptaal and Rupak Taal in Ekgun and Dugun Layakaris.

प्र03. अपने वाद्य के सम्पूर्ण इतिहास एवं अंगों का वर्णन करें और उन्हें चित्र द्वारा दर्शाइये। Write about the history and construction of your opted Instrument and show the parts of your instrument with the help of diagram.
(5)

प्र04. निम्नलिखित में से किन्हीं दो जोड़ियों की तुलना कीजिए :
(क) ग्राम-मूर्छ्चना
(ख) कृंतन-जमजमा
(ग) वर्ण-अलंकार

Compare any two pairs from the following :
(a) Gram - Murchana
(b) Krintan - Zamjama
(c) Varan - Alankar
$\left(2^{1 / 2}+2^{1 / 2}\right)$
प्र05. रागों के समय सिद्धाँत के विषय में विस्तारपूर्वक लिखें।
Write in detail about the time theory of Ragas.

प्र06. शारंगदेव कृत संगीत रत्नाकर अथवा अहोबल कृत संगीत परिचात का संक्षिप्त परिचय लिखें।

Write in brief about 'Sangeet Ratnakar' written by Pt. Sharang Dev or - 'Sangeet Parijata' written by Pt. Ahobal.
(5)

प्र07. राग भैरव अथवा राग खमाज की रजाखानी गत तीन तोड़ों सहित लिखिये। Write Razakani gat in Rag Bhairav or Rag Khamaj with three Todas.

## Hindustani Music (Vocal)

समय : 3 घण्टे
पूर्णांक : 25

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प्र01. अपने पाठ्यक्रम से किसी एक राग का बड़ा ख्याल स्वरलिपि बद्ध कीजिए।
Write the Notation of Bada Khayal in any Raga from your syllabus.
प्र02. ताल 'धमार' और ताल 'तिलवाड़ा' की एकगुण व दुगुन सम्पूर्ण परिचय सहित लिखिए। Write the Ekgun and Dugun of Taal Dhamar and Taal Tilwara with complete introduction.

प्र03. रागों के समय सिद्धाँत के विषय में विस्तारपूर्वक लिखें एवं चित्र भी बनाएं।
Explain in detail the time theory of Ragas and draw a diagram also.

प्र04. भारतीय संगीत के प्राचीन इतिहास पर प्रकाश डालें।
Throw light on the Ancient period history of Indian Music.

प्र05. राग कैयार का सम्पूर्ण परिचय देकर छोटा ख्याल स्वरलिपि ढंग से लिखें।
Write a Notation of Drut Khayal in Raga Kedar, with complete introduction of the Raga.

प्र06. किन्हीं दो संगीतकारों का जीवन परिचय लिखें :
(1) उस्ताद अब्दुल करीम खान
(2) उस्ताद फैयाज खाँ
(3) उस्ताद बड़े गुलामअली खां

Write the biography of any two musicians :
(1) Ustad Abdul Karim Khan
(2) Ustad Fayaz Khan
(3) Ustad Bade Gulam Ali Khan

प्र07. निम्नलिखित में से किन्हीं पाँच को परिभाषित करें :
ग्राम, मूर्छना, अलंकार, गमक, मुर्की, कण, लय, ताल
Define any five of the following :
Grama, Murchana, Alankar, Gamak, Murki, Kan, Laya and Tala

