

Instructions:

1. All questions are compulsory.
2. All questions must be answered in the question booklet itself in the space provided for this purpose.
3. All sub-questions under the main question carry equal marks.
4. Rough work, if required, may be done on the last few pages of this question booklet, provided for the purpose.

Part-A (English)**35 Marks****1.**

Read the unseen passage below and answer the questions that follow: (10)

Imagine a travel scene a decade ago, with members of family or friends and lots of luggage. Every such journey undertaken in those days was made arduous with the nagging thought of one particular aspect: managing and keeping the cash stashed away safely during the course of the travel to fulfil various needs. How to carry so much money at a time to unfamiliar places? How much to carry? How safe it is to carry? Will it be sufficient; if not, what to do? All such thoughts used to jade one's mind before and during the trip.

Today the entire perspective has changed. We live in a world full of cards of different kinds and multifarious uses. Right from the hotel bill to train or airline ticket charges and from taxi bill to bagful of shopping can be cleared with the help of cards, making travel absolutely hazard free. Cards have made a part and parcel of our daily life. The morning begins with the milk booth prepaid card, then the punch card at the work spot and during the course of the day, one flashes a number of cards like credit cards, debit cards, discount cards, privilege cards etc. Even the driving licences and registration certificates have taken the shape of cards.

The card culture made its entry into the daily life a decade ago, initially placing itself gently among the elite as a niche product and then spreading like wildfire to become a necessity for all and sundry. Cards seem to be replacing much paper work. Credit card gives one credit for a whole lot of things anywhere under the sun; debit card enables one shop practically with an empty wallet, discount card helps one to strike the best bargain, privilege card makes one an exclusive person, identity card distinguishes a person, voter card turns one into a responsible citizen of the country, PAN card

certifies one as an assessee and what else would one require to get recognised and survive? The history of credit cards can be traced back to the 1950's in Uncle Sam's land with discount cards hitting the market first and taking a cue from their success, club called Diners launched the first credit card which was limited to the upper segment of society. Later, two companies by name Visa and Master really brought this concept to the people in general and today the world is flooded with their cards.

The operation of credit cards hinges on four categories of people and institutions. The providers like Visa, Master, Diners, American Express and JCB are the first rank. The second category comprises vendors or the respective banks and financial institutions which issue cards on behalf of the providers like HBSC, Citibank, SBI, CBI, Standard Chartered and more. The third are the customers or card holders. The fourth are merchants or shop owners or any such establishments that are entitled to accept the cards from the holders and honour the purchases made by them or the service rendered to them.

In spite of its tremendous growth, one thought that keeps bugging people in the security aspect of the card. With the advent of EDC (electronic data capturing) machines and smart cards, the security lapses and fraudulent usage of cards have almost been eliminated, leaving a very slim chance of misuse. The only possible chance of misuse is when a card is lost and even that can be minimised to nil effect or to a minimum penalty if the loss is reported within 24 hours.

The advantages of a card are many. The foremost being its mobility; it can be used as an identity card; it signifies a status symbol; it is easy to use; it enhances one's purchasing power; insurance coverage is linked with the card in case of accidental deaths. Such features combined with the number of lucrative offers and schemes made available by the card issuers make it very viable proposition today.

Question No.	Question	Space for Answer
a)	<p>What was the travel scene a decade ago?</p> <p>(i) family or friends and lots of luggage (ii) managing pets (iii) managing and keeping cash (iv) both (i) & (iii)</p>	
b)	<p>What is the history of credit card?</p> <p>(i) It can be traced back to 1950 (ii) Diners club (iii) Visa and Master companies (iv) all of the above</p>	

c)	<p>How has the security aspect of the cards been taken care of?</p> <ul style="list-style-type: none"> (i) By the advent of EDC (ii) minimising effect if lost (iii) minimum penalty (iv) report within 24 hours 	
d)	Mention four types of cards mentioned in the passage, apart from the types mentioned in first paragraph.	
e)	Identify the word which is similar in meaning to the phrase 'of various kinds' in the passage.	
2.	<p>Write an Essay on: 'Should use of technology in education be limited in India?' OR Write about 'India of your dreams'. (200 words) </p>	

(10)

Question No.	Question	Space for Answer
3.	<p>Each sentence has been divided into four parts, A,B,C,D. Out of the four parts one is defective (carries mistake). While answering the question you will quote the part A,B,C or D as the case may be that contains the mistake. In case you find the whole sentence 'all correct' your answer will be E.</p>	
a)	(A) She was conscious to (B) all that (C) was going on (D) around her place. (E)	
b)	(A) The little cottage, (B) which belongs to my uncle, (C) is situated in a (D) very pretty valley. (E)	

c)	(A) We met an (B) old woman carrying (C) bundle of sticks (D) on her head. (E)	
d)	(A) The hit song, (B) whose composer won an award, (C) has been playing (D) all day. (E)	
e)	(A) He's a very (B) boring person (C) because she always (D) talks about himself. (E)	
4.	Fill in the blank with suitable option given: (5)	
a)	There's been some very ____ news. (surprise/surprised/surprising)	
b)	____ grand ideas you have! (What/Which/How)	
c)	There's honour ____ thieves as well. (for/of/against)	
d)	I was occupied with important ____. (matter/matters/material)	
e)	This is the man ____ we saw yesterday. (that/which/whom)	

Part-B (Maths)

30 Marks

Question No.	Question	Space for Answer
1.	Find the answer for the following (5)	
a)	What would be the additive inverse of $-7/19$?	
b)	Is 22222 a perfect square?	
c)	Find the product of $a^2(2ab - 5c)$.	
d)	Find the area of a trapezium with the length of 2 parallel arms as 5 cm and 10 cm and height 6 cm.	

e)	How much time will a train take to cover 250 km if its running at a speed of 75 km/hour?	
2.	Fill in the blanks (5)	
a)	____ is the smallest Hardy-Ramanujan number.	
b)	The square root of 5776 is ____.	
c)	The shadow of a stable cone, looking from its top would be of ____ shape.	
d)	A regular polygon has ____ sides, if each of its interior angles is 108° .	
e)	If $3x = 2x - 18$, then value of x is ____?	
3.	Answer the following (10)	
a)	The perimeter of a rectangle is 13 cm and its width is $1\frac{1}{4}$ cm. Find its length.	
b)	Find a rational number between $\frac{1}{4}$ and $\frac{1}{2}$.	
c)	Half of a herd of deer are grazing in the field and three fourth of the remaining are playing nearby. The rest 9 are drinking water from the pond. Find the total number of deer in the herd?	
d)	There are 100 students in a hostel. Food provision for them is for 20 days. How long will these provisions last, if 25 more students join the group ?	
4.	Find the answer to the following real life problems: (10)	

Question No.	Question	Space for Answer
a)	Suppose your mother's present age is six times your present age. After 5 years from now, your age will be one-third of your mother's present age. Can you find the present age of both?	
b)	Kamal borrowed Rs. 26,400 from a bank to buy a scooter at the rate of 15% p.a. compounded yearly. What amount will he pay at the end of 2 years and 4 months to clear the loan?	

Part-C (Science)

20 Marks

Question No.	Question	Space for Answer
1.	Select and write the correct answer: (5)	
a)	Oxides of sulphur and nitrogen dissolve in rain water and form acids, causing _____. (combustion/ acid rain/ alkaline rain)	
b)	Metals generally react with acid and produces ____ gas that burns with a 'pop' sound. (hydrogen/oxygen/nitrogen)	
c)	____ is not an example of unicellular organism. (paramecium/human eye/ amoeba)	
d)	The number of oscillations per second is called the ____ of oscillation. (vibration/ pitch/ frequency)	
e)	Stoppage of menstruation in females is known as _____. (menarche/ menopause/ fertilisation)	

Question No.	Question	Space for Answer
2.	Write TRUE or FALSE (5)	
a)	Rayon, a fibre obtained by chemical treatment of wood pulp, is also known as artificial silk.	
b)	The property of metals by which they can be beaten into thin sheets is called its ductility.	
c)	All human beings have 46 pair of chromosomes in the nuclei of their cells.	
d)	A solar eclipse happens when the new moon is between the sun and the Earth.	
e)	Rolling friction is smaller than the sliding friction.	
3.	Answer the following questions: (10) (Each question carries 5 marks. Attempt any two. Maximum 150 words)	
a)	Can you explain <i>cloning</i> along with some example, such as that of Dolly, the sheep?	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

b)

What do you know about the Greenhouse effect?

c) Briefly discuss deforestation, its causes and consequences.

Part-D (General Knowledge)**15 Marks**

Question No.	Question	Space for Answer
1.	Write the name of any one Indian state in which we can find the tribe named below? (5)	
a)	Meena	
b)	Naga	
c)	Khasi	
d)	Koli Mahadev	
e)	Santhal	
2.	Write TRUE or FALSE (5)	
a)	Arthritis is an eye disease.	
b)	Krishnadev Raya was a famous ruler of Vijayanagar kingdom.	
c)	Wimbledon 2019 was won by Roger Federer.	
d)	Dead Sea is a land locked water body in the continent of Europe.	
e)	The oath to a newly elected President of India is administered by the Chief Justice of India.	
3.	Answer the following questions: (5)	
a)	Which country developed the Global Positioning System (GPS) in 1994?	
b)	Which Indian combinedly won the Nobel Prize of Economics in 2019?	
c)	Who was the first Indian woman to win an Olympic Medal?	
d)	Which picture was adjudged the best in 91 st Academy Awards (Oscars, 2019)?	
e)	Which comic character has a pet dog named 'Pluto'?	