Modi Public School, Siliguri

Preparatory Examination 1 – 2022-23

Class 12   **English Core**   *Time* :3 Hr   *F.M.* :**80**

GENERAL INSTRUCTIONS:

I] The Question paper contains THREE sections- READING, WRITING, and LITERATURE.

II] Attempt questions based on specific instructions for each part. Write the correct question number in your answer sheet to indicate the option/s being attempted.

SECTION-A READING SKILLS [20 marks]

I] Read the passage given below:

1] "Who doesn't know how to cook rice? Cooking hardly takes time", said my father. So, I challenged myself. I switched News to YouTube and typed, "How to cook rice?" I took one and a half cups of rice. Since I didn't have access to a rice cooker, I put the rice in a big pot. Firstly, the rice has to be washed to get rid of dust and starch. I thought I won't be able to drain the rice and that it will fall out of the pot. I observed the chef as I swirled the rice around and used my dexterous hands to drain it, not once, not twice but three times. I looked down at the sink and saw less than 50 grains that made their way out of the pot. Suffice it to say, I was up to the mark.

2] The video stated that the key to perfecting rice is equal amounts of rice and water. I have heard that professionals do not need to measure everything, they just know what the right amount is. But as this was my first time in the kitchen, I decided to experiment by not measuring the water needed for boiling the rice. I wanted the rice to be firm when bitten, just like pasta. I do not enjoy the texture of mushy rice. It has to have that chutzpah; it has to resist my biting power just for a bit before disintegrating

3] After what seemed like 10 minutes, all the water disappeared. I went in to give it a good stir. To my surprise, some of the rice got stuck in the pot. I tried to scrape it off but to no avail. At the same time, there was a burning smell coming from it. I quickly turned the stove off. "What have you done to the kitchen?" shouted mother, while coming towards the kitchen. I managed to ward her off.

4] Finally, when the time came to taste my creation, I was surprised! It was not bad at all. The rice had the desired consistency. Sure, a little more salt would've been better, but just added that while eating. The experience was fairly rewarding and memorable. It taught me a new sense of respect for those who cook food on a regular basis at home or engage in gourmet creations professionally.

Based on your understanding of the passage, answer the questions given below. [10x1=10]

i] Father's question to the narrator, about knowing how to cook rice was intended to make the process sound simple.
a] True- if the statement agrees with the information
b] False- if the statement contradicts the information
c] Not Given - if there is no information given on this

ii] "I switched from news to YouTube …" Pick the option in which the meaning of switched is NOT the same as it is in the passage.
a] He switched on the radio to listen to the news while having dinner
b] Forget these diet supplements and switch to yoga, if you want a true sense of well-being
c] Mom switched to reading fiction recently because she was bored with cookbooks.
d] The company will switch the trucks to other routes to bring down city pollution.

iii] Based on your understanding of the passage choose the option that lists the correct sequence of the process.
1] Use water to wash the rice   2] Repeat the process three times
3] Drain the water off   4] Put rice in a utensil
5] Swirl the water in and around the rice
a] 4, 2, 1, 3, 5   b] 1, 3, 2, 5, 4
c] 4, 1, 5, 3, 2   d] 5, 1, 2, 4, 3

iv] The narrator says that he has dexterous hands. He would have had a problem had it been the opposite. NOT BEING dexterous means, being _____.

v] Which option represents the correct ratio of water to rice for cooking perfect rice?

(a) Image 1   (b) Image 2   (c) Image 3   (d) Image 4
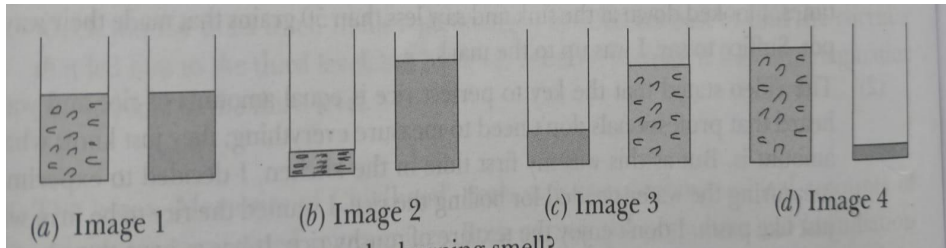
vi] How did the mother react to the burning smell?
a] She commented on it.   b] She brushed it aside
c] She enquired about it   d] She handled it

vii] Can you infer that narrator is a professional cook? Give one reason.

viii] Pick the option showing the CORRECT use of the word "chutzpah" .
a] It is the court's duty to dispense chutzpah to everyone irrespective of caste or creed.
b] The speaker may not have much of a stage presence but you've got to admit she's got chutzpah.
c] I could crack the code easily which proved me to be a chutzpah and I was the only one who could do so.
d] After his father's demise, the daughter took over the family's chutzpah to save it from disaster.

ix] Which word from paragraph 1 of the passage means 'skilled'?
x] What happened when all the water disappeared?

II] Read the passage given below:

1] Tiger is one of the most recognizable animals around the world, capable of reaching an average of 3.38 m and 388 kg. Its reddish-orange fur with dark stripes is not only unique to tigers (some can have white fur), but also allows them to be camouflaged in the dense environment that they live in. This camouflage, however, has, not helped the tiger escape from the eyes of humans, especially over the last century when tiger populations have declined by 96.1% - from 100,000 to a little over 3,900.

2] Over the last century, they have lost 93% of their historic range, and have been eradicated from Southwest and Central Asia, from the islands of Java and Bali, and from large areas of Southeast and Eastern Asia. Today, tigers range from the Siberian taiga in the north of Asia to the tropical mangrove swamps in the south, with the remaining six subspecies of tiger all classified by the International Union for Conservation of Nature IUCN) as endangered. The exponential drop in tiger populations can be seen in the figure where the graph shows a considerable decrease in population, from around 40.000 in the 1970s to 3000 in 2010. In fact, there are more tigers in captivity than there are in the wild today.
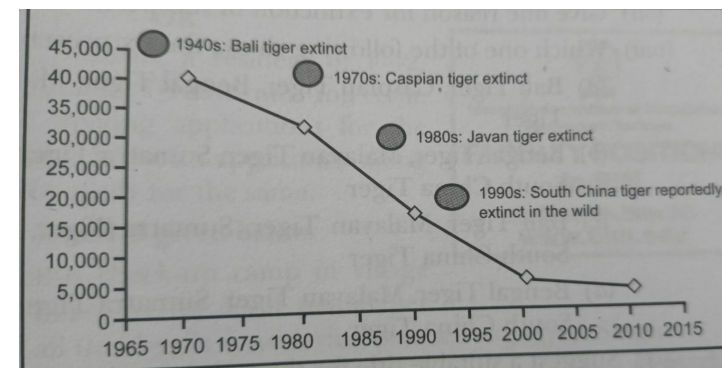
3] In total, there have been 9 known species of tigers, 3 of which have become extinct. Bengal Tiger, Malayan Tiger, Sumatran Tiger, Siberian Tiger (Amur Tiger). Indochinese Tiger (Corbett's Tiger) and South China Tiger (Amoy or Xiamen Tiger) are the six present species of tigers. The three known extinct species of tigers are Bali Tiger, Caspian Tiger (Hyrcanian or Turan Tiger,) and Javan Tiger. Bengal Tiger, the most common and second largest subspecies of tiger in the world today, are residing in the forests of India, Nepal, Bhutan, and Bangladesh. Malayan Tiger is exclusively found in the southern parts of the Malay Peninsula which is situated in Southeast Asia. Bali Tiger lived on the Indonesian island of Bali and was hunted to extinction on 27 September 1937, when the last of the subspecies was killed.

Caspian Tiger (Hyrcanian or Turan Tiger) was found in the sparse forest habitats and riverine corridors west and south of the Caspian Sea and east through Central Asia.

Based on your understanding of the passage, answer the questions given below. **[10X1=10]**

i] The average weight of a tiger as mentioned in the passage is 3.38 kg.

a] True - if the statement agrees with the information

b] False - if the statement contradicts the information

c] Not Given - if there is no information given on this

ii] What's the use of dark stripes on the body of a tiger?

iii] Tigers have been_____ from Southwest and Central Asia and from the islands of Java and Bali.

a] captured   b] tortured   c] restricted   d] eradicated

iv] Tiger populations have declined by _____.

v] How many subspecies of tiger have been declared endangered?

a] 9   b] 6   c] 3   d] 8

vi] Where is the Siberian tiger found?

a] In the North of Asia   b] In the North of America

c] In the South of Africa   d] In the Northeast of Africa

vii] Give one reason for the extinction of subspecies of tiger.

viii] Which one of the following shows the six present species of tiger?

a] Bali Tiger, Caspian Tiger, Bengal Tiger, Malayan Tiger, Sumatran Tiger, Javan Tiger

b] Bengal Tiger, Malayan Tiger, Sumatra Tiger. Siberian Tiger, Indochinese Tiger, South China Tiger

c] Bali Tiger. Malayan Tiger, Sumatra Tiger, Siberian Tiger. Indochinese Tiger, North China Tiger

d] Bengal Tiger, Malayan Tiger, Sumatra Tiger, Caspian Tiger, Indochinese Tiger, Japanese Tiger

ix] Suggest a suitable title for the passage.

a] The Dwindling Tiger Population   b] Tigers Face Extinction

c] Where are the Tigers?   d] Save the "Panthera Tigris".

x] Which organization has specified the number of extinct subspecies of tiger?

SECTION B CREATIVE WRITING SKILLS [20 marks]

III] i] Attempt ANU ONE from the following notices.   **[5]**

1] You are Sanjay/ Sanjana, Head Boy/ Head Girl of Sunlight Foundation School, Saharanpur. Write a notice about a debate competition to be held in the school on the topic "Foreign Films are not Relevant to Indian Culture". Invent the necessary details and complete your notice within 50 words.

OR

2] While walking in the park of your colony, you found a small briefcase with some documents and cash. Write a notice in about 50 words to be put up on the colony's notice board asking the owner to identify and collect it from you. You are Rajat/ Rani of 12/4, Metro Colony, Surat.

ii] Attempt ANU ONE from the following.   **[5]**

1] You are Dr. Stanley, a certified art therapist from Leh. You have been invited by G. D. Public School, Jammu, to conduct a seminar for students on Art Therapy, The Way Forward. This seminar is to introduce students to the usefulness of art in dealing with personal and social problems. Write your reply, in about 50 words, accepting the invitation.

OR

2] You are Minal/ Manas of J-201, Fort Road, Chennai. You have just purchased a new house. You decide to have a house-warming ceremony and invite your cousin Priya. Write the invitation, in about 50 words, giving all necessary details.

iii] Attempt ANU ONE from the following.   **[5]**

1] You are Anjali/ Aryan Das, staying at Whitefield Colony, Jaipur. The poor availability of good school in your vicinity compels you to write a letter to draw the attention of the officials. Write a letter to the editor of Rajasthan Times, specifying you problems faced and ask a solution to your problem.

OR

2] Nizel Public School, Ranchi requires two Western Music coaches, one male and one female. Each should possess a degree holder in Western Music as well as a certified coach in music, and must have a rich experience of working with a reputed school. You have seen their advertisement and wish to apply for the same. Write an application in about 120-150 words along with your resume. You are Tithi/ Tanmay, 14, Azad Basti, Jamshedpur.

iv] Answer <u>ANY ONE</u> from the following. **[5]**

1] The rising prices of onions, potatoes and other basic necessities make life difficult for the commoners. As a concerned citizen, write an article in about 120-150 words, on rising prices. Suggest solutions to solve the problem. You are Antara/ Abhi.

OR

2] You are Reet/ Ritesh Rao, a reporter with a national daily. You have come across the incident of a newly-wed bride committing suicide due to the strain she had been facing in her married life. Write a report in 120-150 words, mentioning the misery and the scene of the accident.

SECTION-C LITERATURE [40 marks]

IV] Read the given extracts and attempt <u>ANY ONE</u> of the following with reference to the context. **[6x1=6]**

A] "…*It is in the news that all these pitiful kin*
Are to be bought out and mercifully gathered in
To live in villages next to the theatre and the store
Where they won't have to think for themselves anymore
While greedy good-doers, beneficent beasts of prey
Swarm over their lives enforcing benefits
That are calculated to soothe them out of their wits,
And by teaching them how to sleep they sleep all day
Destroy their sleeping at night the ancient way"

i]What is the tone of the poet in the above lines?
1] aggressive   2] tolerant   3] sarcastic
4] sentimental   5] resigned
Choose the most appropriate option.
a] Only 1   b] 2 and 3   c] 1, 4 and 5   d] Only 3

ii] Identify the phrase from the extract that suggests the following.
 "No one bothers to take "their" consent before pushing the promise of a better life their way"
iii] What quality of the villagers can be inferred through these lines?
a] gullible   b] futuristic   c] ambitious   d] hypocritical

iv] Complete the following analogy correctly. Do NOT repeat from the used example.
Greedy good doers: alliteration ::_____: oxymoron

v] On the basis of the extract choose the correct option with reference to 1 and 2 given below.
1] The city dwellers make promises for the betterment of the villagers.

2] The city dwellers have ulterior motives.
a] 1 is true but 2 is false   b] 2 is true but 1 is false
c] 2 is the reason for 1   d] Both 1 and 2 cannot be inferred from the extract
 vi] Fill in the blank with an appropriate word in the blank, with reference to the extract. [Use a word of your own, NOT from the extract].
"...calculated to soothe them out of their wits" **implies that 'them' are being _____.**

OR

B] "*The little old house was out with a little new shed*
 In front at the edge of the road where the traffic sped
A roadside stand that too pathetically pled
It would not be fair to say for a dole of bread.
 But for some of the money the cash, whose flow supports
The flower of cities from sinking and withering faint"

i] Why was a little new shed' extended out the edge of the road?
a] To encroach the extended space   b] To promote their products
c] To grab the attention of the passers-by   d] None of these

ii] Why was the roadside stand called 'pathetic'?
a] Because it of the poor owners   b] Because it was not attractive
c] Because it was in the smooth sailing   d] Because it was surrounded by dirt

iii] What is meant by a dole of bread"?
iv] Who made the roadside stand and where?
a] The sarpanch made in the village   b] The government made in the village
c] Social agencies made in the village   d] The poor rural people made in the village
v] Complete the analogy. [Fill the blank with a word from the extract].
Piteously: pathetically: _____: scornful
vi] The rhyming scheme used in the given stanza is_____
V] Read the given extracts and attempt <u>ANY ONE</u> of the following with reference to the context. **[4X1=4]**
A] "**DERRY**: You're … peculiar. You say peculiar things. You ask questions I don't understand.
MR LAMB: I like to talk. Have company. You don't have to answer questions. You don't have to stop here at all. The gate's open.
DERRY: Yes, but…
 MR LAMB: I've a hive of bees behind those trees over there. Some hear bees and they say, bees buzz. But when you listen to bees for a long while, they hum… and hum means sing. I hear them singing, my bees.

DERRY: But… I like it here. I came in because I liked it…when I looked over thewall.

MR LAMB: If you'd seen me. you'd not have come in.

DERRY: No."

i] List the playwright's purpose of using ellipses […] in this extract.

ii] Select the option that best describes Derry and Mr. Lamb in the extract.

a] Derry -introvert, Mr. Lamb- friendly   b] Derry- fearful, Mr. Lamb- domineering

c] Derry- friendly, Mr. Lamb-weird   d] Derry-open-minded, Mr. Lamb- charming

iii] Which of the following best summarises Mr. Lamb's attitude towards the bees?

a] Beauty is being true to yourself.   b] There is a kind of beauty in imperfection.

c] Beauty is the promise of happiness.   d] The beauty of the world lies in the details.

iv] 'Derry says. "I came in here because I liked it… ". What was the one significant thing Derry might have liked about the place, as per the extract?

<center>OR</center>

B] " …Students on Ice, the programme I was working with on the Shokalskiy, aims to do exactly this by taking high school students to the ends of the world and providing them with inspiring educational opportunities which will help them foster a new understanding and respect for our planet. It's been in operation for six years now headed by Canadian Geoff Green, who got tired of carting celebrities and retired, rich, curiosity-seekers who could only give back in a limited way. With Students on Ice, he offers the future generation of policy-makers a life-changing experience at an age when they're ready to absorb, learn, and most importantly, act."

i] Complete the sentence appropriately, with reference to the extract.
The writer refers to the educational opportunities as inspiring because _____.

ii] Which of the following would NOT be a 'life-changing experience'?

a] Being given the lead role in a play.   b] Going on an adventure trip.

c] Playing a video game   d] Meeting a great leader, you admire

iii] Select the most suitable title for the given extract.

a] Adventure with a Mission   b] The Wanderlust

c] Adventure - The Spice of Life   d] Students of the Future

iv] Why does the writer refer to act as more important than 'absorb or 'learn?

VI] Read the given extracts and attempt <u>ANY ONE</u> of the following with reference to the text.   **[6X1=6]**

A] "A girl from the countryside, she hadn't gone through all the stages of worldly experience that generally precede a position of importance and sophistication that she had found herself catapulted into. She never quite recovered from the terror she felt that day.

That was the end of a brief and brilliant acting career- the legal adviser, who was also a member of the Story Department, had unwittingly brought about that sad end. While every other member of the Department wore a kind of uniform shirt khadi dhoti with a slightly oversized and clumsily tailored white khadi shirt- the legal adviser wore pants and a tie and sometimes a coat that looked like a coat of mail. Often, he looked alone and helpless…"

i] Select the option that completes the given sentence appropriately.
Stages of worldly experience' in the given context would refer to _____.

a] good education to gain knowledge

b] situations that require one to be street smart

c] smaller, not-so-important roles in acting

d] training in soft skills

ii] Select the suitable word from the extract to complete the following analogy.
Sealed: closed:: propelled: _____.

iii] Select the correct option to fill in the blank.
The harm done to the actress was a/an _____.

a] well-planned act   b] unintentional act

c] act of jealousy   d] act of male dominance

iv] Based on the above extract choose the statement that is TRUE for the legal adviser.

a] He disliked the actress from the countryside.

b] He acted after thinking through things carefully.

c] He did not get well with others in the Department

d] He was always dressed smartly.

v] Identify the textual clue that allows the reader to infer that the writer is sympathetic towards the professional fate of the actor. [Clue: a phrase]

vi] Complete the sentence with an appropriate explanation, as per the extract.
The writer uses the word uniform to refer to the outfits of the Department members because just like a uniform _____.

OR

B] "Some might make quite extravagant claims for it as being, in its highest form. a source of truth, and, in its practice, an art. Others, usually celebrities who see themselves as its victims, might despise the interview as an unwarranted intrusion into their lives or feel that it somehow diminishes them, just as in some primitive cultures it is believed that if one takes a photographic portrait of somebody then one is stealing that person's soul."

i] What is the most likely reason some people consider the practice of interviewing an art? This could be because it requires:

a] fluency of words

b] sensitive and careful handling

c] creativity and imagination

d] probing and focusing on details

ii] Rewrite the sentence by replacing the underlined phrase with its inference.

Celebrities feel that an interview <u>diminishes them.</u>

iii] On the basis of the extract, choose the correct option with reference to the two statements given below.

1] Celebrities don't consent to be interviewed.

2] Interviews intrude on the privacy of celebrities.

a] 1 can be inferred from the extract but 2 cannot

b] 1 cannot be inferred from the extract but 2 can

c] 1 is true but 2 is false

d] 2is the reason for 1

iv] Rationalise, to support the given opinion.

"To say that an interview, in its highest form, is a source of truth is extravagant."

v] Replace the underlined word with its antonym from the extract.

Some celebrities hate the idea of having to give an interview because it makes them feel like <u>attackers.</u>

vi] The author's views on interviews, in the extract, can best be described as statements based on:

a] facts   b] hypothesis   c]superstitions   d] beliefs

VII] Answer <u>ANY FIVE</u> of the following in about 40-50 words each.   [5×2=10]

a] How did the author discover who the English visitor to the Gemini Studio was?

b] Why does the narrator assert that the bangle-makers are caught in a vicious web?

c] What does the poet's smile in 'My Mother at Sixty-Six' suggest?

d] What does V.S. Naipaul feel about interview?

e] Sophie is overambitious. Do you agree?

f] What is M. Hamel's perspective about language?

VIII] Answer <u>ANY TWO</u> of the following in about 40-50 words each.   [2x2=4]

a] Why do we find Dr Sadao in a dilemma when he found Tom?

b] How did Zitkala-Sa's first day in the land of apples begin?

c] Why did the clerk at The Third Level stare at Charley?

IX] Answer <u>ANY ONE</u> of the following in about 120-150 words each.   [1x5=5]

i] The prose selections, "Deep Water" and "Indigo" bring out the importance of overcoming fear, in order to be able to lead our lives successfully. Imagine yourself to be a motivational speaker who has to address high school students. Write this address in 120-150 words elaborating on occurrences from the two texts to inspire your audience and convince them about the importance of overcoming fear.

You may begin like this...

"Good morning students!

We all know what it's like to be afraid. Fear is our body's natural response to a perceived threat or danger. But when..."

OR

ii] "Their mother sighed. Sophie watched her back stooped over the sink and wondered at the incongruity of the delicate bow which fastened her apron strings."

The pros selection "Going Places" includes this telling comment about Sophie's mother.

In Aunt Jennifer's Tigers, we are told that

"The massive weight of Uncle's wedding band

sitsheavily upon Aunt Jennifer's hand."

Imagine a conversation between Sophie's mother and Aunt Jennifer. Create this exchange with reference to the two extracts given above.

You may begin as this...

"Sophie's mother: Your embroidery is so beautiful. Do you love tigers?"

X] Answer <u>ANY ONE</u> of the following in about 120-150 words each.   [1x5=5]

i] Powerful people misuse their power for their selfishness. Justify the statement with reference to 'The Tiger King' and 'The Enemy'.

OR

ii] The spirit of gratitude gives us pleasant and satisfying effects because it carries with it a sense of hopefulness to others. But Derry always looked at the darker side of life and remained discontented. What should the little child have done in order to acknowledge the true meaning of life?

Modi Public School, Siliguri
Pre-Board Examination 1– 2022-23

Class 12   **History**   *Time* :3Hr *F.M.* :**80**

General Instructions:

(i) Question paper comprises five Sections – A, B, C, D and E. There are 34 questions in the question paper. All questions are compulsory.

(ii)Section A – Question 1 to 21 is MCQs of 1 mark each.

(iii) Section B – Question no. 22 to 27 are Short Answer Type Questions, carrying 3 marks each

(iv) Section C - Question no 28 to 30 are Long Answer Type Questions, carrying 8 marks each. Answer to each question should not exceed 300-350 words

(v) Section D – Question no.31 to 33 are Source based questions with three sub questions and are of 4 marks each

(vi) Section-E - Question no. 34 is Map based, carrying 5 marks that includes the identification and location of significant test items. Attach the map with the answer book.

(vii) There is no overall choice in the question paper. However, an internal choice has been provided in few questions. Only one of the choices in such questions has to be attempted.

(viii) In addition to this, separate instructions are given with each section and question, wherever necessary.

Section A

MCQS   1x21=21

1**. "Be lamps unto yourselves as all of you must work out your own liberation."**

Identify the essence of the words of Buddha from the options given below   1

A. One should connect to inner being.

B. One should live life of brahmacharya

C. One should focus and express feelings

 D. One should spread religion everywhere.

2. **Find out the correct chronological order of 'the Chishti Silsila' from the following options :   1**

I. Shaikh Nizamuddin Auliya   II. Shaikh Fariduddin Ganj – Shakar

III. Shaikh Nasiruddin Chiragh-i Delhi   IV. Shaikh Muinuddin Sijzi

Options:

 A. I, II, III & IV   B. II, III ,IV & I   C. III,II, I & IV   D. IV,II,I & II

3. Who among the following commissioners visited Amravati and collected several sculpture panels and took them away to Madras in 1854   1

A. Walter Elliot.   B. John Freeman

C. Morrice James   D. Michael Walker.

4. Identify the similarity between the Buddhism and Jainism.   1

A. Both believed in Soul and Vedas.

B. Both gave importance to Sangha and Monks.

C. Both believed in extreme methods of attaining salvation.

D. Both were founded by Kshatriya clans of North India.

5. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).   1

Assertion: The most striking feature of the location of the Vijaynagara was the natural basin.

Reason: The surrounding landscape was characterised by granite hills and streams flow down to the river Tungabhadra from these rocky outcrops.

A. Both (A) and (R) are correct and (R)is the correct explanation of (A)

B. Both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. (A) is correct, but (R) is not correct

 D. (R) is correct, but (A) is not correct

6. From which of the following regions Ahom rulers belonged to?   1

A. Delhi.   B. Orissa.   C. Ajmer.   D. Assam.

7. Which of the following options is correct?   1

A. Gandhi ji started Quit India Mission in 1930.

 B. Gandhiji gave his first speech in Champaran

 C. Gandhiji worked as radical nationalist leader

 D. Gandhi considered G.K. Gokhale as his political mentor

8. Match the following and select the correct option   1

List I [Harappan Site]   List II [Famous for]

1. Lothal   a. Specialised centres for making shell objects.

2. Kalibangan   b. Near sources of carnelian

3. Dholavira   c. Evidence of ploughed field found.

4. Nageshwar   d. Water reservoirs found.

A. 1 - b, 2- c, 3 -d , 4- a   B. 1 - a, 2- d, 3 -c , 4- b

C. 1 - c, 2- b, 3 -d , 4- a   D. 1 - d, 2- a, 3 -b , 4- c

9. Which one of the following statements is the correct explanation of 'Endogamy'? 1

A. Marraige outside a kin group.   B. Marriage within a kin group.

C. A woman having several husbands.   D. A man having several wives.

10. Fill in the blank: 1

The local merchants of the Vijaynagar empire who participated in the trade of horses were called_____

A. Gajapati.   B. Mahanayakas.   C. Kudirai Chettis.   D. Narapati.

11. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).   1

Assertion (A): The Santhals were given land and persuaded to settle in the rocky upper part of the Rajmahal hills.

Reason (R): The British perceived Paharis and Santhals as ideal settlers.

A. Both (A) and (R) are correct and (R)is the correct explanation of (A)

B. Both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. (A) is correct, but (R) is not correct

D. (R) is correct, but (A) is not correct

12. Fill in the blanks with suitable options: 1

The early temple was a small square room, called the _____, with a single doorway for the worshipper to enter and offer worship to the image.

A. Mandapa.   B. Shikara.   C. Gopuram.   D. Garbagriha

13. Which of the following statements are NOT correct about the Vijaynagar empire?1

A. The Vijaynagara kings claimed to rule on behalf of god Virupaksha.

B. All royal orders were signed "Shri Virupaksha" in the Telegu script.

C. Rulers also indicated their close links with the gods by using the title "Hindu Suratrana"

D. Vijaynagara Temples developed as religious and cultural centres.

14. Identify the given image from the following options: 1

A. Shalabhanjika.   B. Image from Vessantara Jataka.

C. Worshipping the Bodhi tree.   D. The eastern gateway.

15. Consider the following statements and select the correct option.   1

I. Francois Bernier was closely associated with the prince Dara Shukoh.

II. Bernier travelled to several parts of the country and wrote accounts.

III. He dedicated his major writing to the king of France and Aurangzeb.

Options:

A. II & III   B. II & IV   C. I & II.   D. I & III.

16. Who was the President of Constituent Assembly?   1

A. Jawaharlal Nehru.   B. B.R Ambedkar.

C. Rajendra Prasad.   D. Vallabh Bhai Patel.

17. Consider the following statements: 1

1. Jainism was started by Rishabhdev.

2. Lord Mahavira was 24th Tirthankar of Jainism.

3. Teachings of Jainism are given in Angar.

4. Jainism started Sanghas to spreed its massage.

Which of the given statements is/are correct?

A. 1, 2, 3, 4   B. 1, 2, 3   C. 2, 3, 4   D. 1, 3, 4

18. Choose the correct option: 1

A. Ibn-Battuta travelled extensively in China.

B. Al-Biruni found the Indian cities quite populated.

C. Al-Biruni was greatly influenced by the Indian postal system.

D. According to Ibn-Battuta. crown ownership of land was quite disastrous for farmers.

19. Find out from the following pairs which one is NOT correctly matched: 1

 A. Lord Wellesley: Subsidiary Alliance

B. Lord Dalhousie: Doctrine of Lapse

C. Lord Henry Hardinge: Introduced the Enfield rifles

D. Lord Canning: Religious Disabilities Act

20. "Naam Ghar" refers to 1

A. Prayer Halls   B. Temples.

C. Religious places   D. All of the above.

21. What is the literal meaning of the term "silsila" 1

A. A chain.   B. Disciple.   C. Devotion   D. Without attributes.

Section B

SHORT ANSWER TYPE QUESTIONS   3X6=18

22."Magadha was the most powerful Mahajanapada". Examine the statement.   3

23. Analyse the concept of the Asiatic mode of production as stated by Karl Marx.3

24. Analyse the impact of the 'policy of pacification' on the Paharis, as proposed by Augustus Cleveland in 1780

OR

"The power of the Jotedars was more effective than that of the zamindars. Justify the statement with suitable arguments.   3

25. Archaeologists have used evidence from material remains to piece together parts of Harappan history". Justify the statement with reference to the principles of classification.   3

26." British used military power on gigantic scale and passed number of Acts to suppress the Revolt of 1857". Elucidate the statement with suitable examples.

OR

"Chain of grievances of taluqdars and peasants led them to join the revolt of 1857."

Elucidate the statement."   3

27. Describe any three features of Fortification of the Vijaynagar Empire.   3

SECTION C

LONG ANSWER TYPE QUESTIONS   8x3=24

28. Describe the familial relationship observed during the Mahabharata era.   8

OR

Describe the Social implications of access to Resources during Mahabharata period.

29. Analyze the importance and limitations of Ain-i-Akbari as a source of Akbar's reign.   8

OR

Describe the functions and authority of the Village Panchayats during the Sixteenth and Seventeenth Centuries

30. Explain the significance of Civil Disobedience Movement.   8

OR

 Explain the significance of Quit India Movement.

SECTION D
SOURCE BASED QUESTIONS

31. **Buddhism in Practice:**   4

This is an excerpt from the Sutta Pitaka, and contains the advice given by the Buddha to a wealthy householder named Sigala.

In five ways should a master look after his servants and employees… by assigning them work according to their strength, by supplying them with food. and wages, by tending them in sickness; by sharing delicacies with them and by granting leave at times …

In five ways should the clansmen look after the needs of Samanas (those who have renounced the world) and Brahmanas; by affection in act and speech and mind, by keeping open house to them and supplying their worldly needs.

There are similar instructions to Sigala about how to behave with his parents, teacher and wife.

31.1. In what ways should a master look after his servants and employees?   1

31.2. In what ways should the clansmen look after the needs of Samanas?   1

31.3. According to you what suggestion Buddha would have advocated regarding parents and teachers?   2

32**. Reverence for the Jogi**   **4**

Here is an excerpt from a letter written by Aurangzeb to a Jogi in 1661-62 :

The possessor of the sublime station, Shiv Murat, Guru Anand Nath Jio

May our Reverence remain in peace and happiness ever under the protection of Sri

Shiv Jio!

…. A piece of cloth for the cloak and a sum of twenty-five rupees which have been

sent as an offering will reach (Your Reverence) Your Reverence may write to us

whenever there is any service which can be rendered by us.

32.1.From where has this excerpt been taken?   1

32.2 What was the name of the Jogi? Which diety did he worship?   1

32.3. Discuss the attitude of the king towards the Jogi.   2

33. **"The Real Minorities are the Masses Of this country"**   **4**

Welcoming the Objectives Resolution introduced by Jawaharlal Nehru, NG Ranga

said. Sir, there is a lot of talk about minorities. Who are the real minorities? Not the

Hindus in the so-called Pakistan provinces, not the Sikhs, not even the Muslims. No,

the real minorities are the masses of this country.

These people are so depressed and oppressed and suppressed till now that they are

not able to take advantage of the ordinary civil rights. What is the position? You go to

the tribal areas. According to law, their own traditional . law, their tribal law, their

lands, cannot be alienated. Yet our merchants go there and in the so-called free

market they are able to snatch their lands. Thus, even though the law goes against

this snatching away of their lands, still the merchants are able to turn the tribal people

into veritable slaves by various kinds of bonds and make them hereditary bond-

slaves.Let us go to the ordinary villagers. There goes the money lender with his

money and he is able to get the villagers in his pocket. There is the landlord himself,

the zamindar and the malguzar and there are the various other people who are able

to exploit these poor villagers. There is no elementary education even among these

people. These are the real minorities that need protection and assurances of

protection. In order to give them the necessary protection, we will need much more

than this Resolution

33.1. How is the notion of minority defined by NG Ranga?   1

33.2. Explain the conditions of ordinary villagers.   1

33.3. Describe the living condition of the tribals   2

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SECTION E

MAP BASED QUESTIONS   **1x5=5**

</div>

34. (34.1) On the given political map of India, locate and label the following with

appropriate symbols:

I. Amravati – A Stupa   1

II. Rakhigarhi – A Indus Valley Site.   1

III. Agra – Territory Under The Control of Mughals   1

<div align="center">

OR

</div>

Vijaynagar- Capital of Vijaynagar Empire. (34.2) On the same outline map , two

places have been marked as **A** and **B**, as the centers of the Revolt of 1857. Identify

them and write their correct names on the lines drawn near them.

General Instructions:

I)All questions are compulsory.

II) Question numbers 1-12 are multiple choice questions of one mark each.

III) Question numbers 13-18 are of 2 marks each. Answers to these questions should not exceed 50 words each.

IV) Question numbers 19-23 are of 4 marks each. Answers to these questions should not exceed 100 words each.

V) Question numbers 24-26 are passage, cartoon and map-based questions. Answer accordingly.

VI) Question numbers 27-30 are of 6 marks each. Answers to these questions should not exceed 170 words.

VII) There is an internal choice in 6 marks questions.

Section A

MCQS   **1X12=12**

1. The first WSF meeting was organized in

A. Mumbai 2004   B. Canada 2016

 C. Porto Alegre, Brazil 2001   D.Paris 2001

2. Which of the statements are true about globalisation?

A. Globalisation is purely an economic phenomenon

B.Globalisation is a multidimensional phenomenon

C.Globalisation is the same thing as westernisation

D. All of the above

3.When was World Trade Organisation was set up?

A. 1993   B. 1994   C. 1995   D. 1996

4. The rivalry between USA& USSR during the post-second world war period is known as

A. Apartheid   B. Cold war

C. Policy of NAM   D. None of the above

5. Who among the following adopted the 'Open door' policy ?

A. China   B. E.U   C. Japan   D. USA

7.Choose the correct options

A. Mikhail Gorbachev -President of Russia

B. Russia – introduced reforms

C. Warsaw – Successor of USSR

D. Boris Yeltsin – President of Russia

8. Kyoto Protocol was agreed in

A. 1997   B. 1992   C. 1980   D. 2000

9.Which one of the following factors has strengthened relations between India and Sri Lanka?

A. Ethnic conflict in Sri Lanka

B. Free Trade agreement with Sri Lanka

C. India's peace keeping force

D. India's attitude towards Tamils in Sri Lanka

10. Which of the following organs of the United Nations has been suspended since 1994?

A. General Assembly   B. Trusteeship and Social Council

C. Economic and Social Council   D. Secretariat

11. Which among the following are true about the 'Global Commons'

A. The Earth's atmosphere, Antarctica ocean floor and outer space are considered as part of the global commons

B. The global commons are outside the sovereign jurisdiction

C. The question of managing the global commons reflected the North South divide

D. The countries of the North are more concerned about the protection of the global common than the countries of the South

12. Liberalisation means

A. Reduced government controls and restrictions

B. Integration among economies

C. Policy of planned disinvestments

D. Competitive market

SECTION B

13. Name any two agencies of the United Nations that deal with social and economic issues.   2

14. What were the two challenges of the independent India?   2

15. What do you understand by Regionalism?   2

16. Enumerate any two principles of Nehru's Foreign Policy?   2

17. Explain the term 'defection'?   2

18. What does the logo on the ASEAN flag symbolize?   2

Section C

19.'European Union is a highly influential regional organization'. Justify the statement with any four arguments.   4

20. Explain the process of establishing democracy in Nepal.   4

21. Explain any four environmental concerns that have become issues of Global Politics.   4

22. Explain any four negative impacts of Globalization.   4

23. Describe any four steps taken by Indira Gandhi to implement the GaribiHatao Programme.   4

Section D

24.Read the passage given below and answer the questions that follow.

In fact, the BSP under Kanshi Ram's leadership was envisaged as an organisation based on pragmatic politics. It derived confidence from the fact that the Bahujans (SCs, STs OBCs and religious minorities) constituted the majority of the population and were a formidable political force on the strength of their numbers.

(i) Which organisation was formed by Kanshi Ram?   1

(ii) Give the full form of BSP.   1

(iii) Name any two religious minorities.   1

(iv) Why are the Bahujans considered a formidable political force**?**   1

Map-Based Questions

25.In the given political map of India, four places are marked as A, B, C and D. Identify them with the help of information given below and write their correct names in the answer-book along with their serial numbers and the alphabets concerned.

INDIA - STATES

(i) Name the state where a violent incident took place in 2002 at Godhara. 1

(ii)Which state was earlier known as Madras? 1

(iii) To which state did Laldenga belong? 1

(iv) Which state integrated with India in 1975 as the 22nd state? 1

S.NO	ALPHABET	NAME OF THE STATE
(i)		
(ii)		
(iii)		
(iv)		

26.Picture based questions.

(i)To which organization the above logo is concerned? 1

(ii) When did this organization formally establish?1

(iii) What is made in this logo or the emblem? 1

(iv) Which is considered the most important organ among the principal organs of the UN? 1

Section E

27. When and by whom was the 'Tryst with destiny' speech was delivered? Describe briefly any four problems faced in the process of partition of India. 2+4=6

OR

Name any two princely states of India initially resisted joining the Indian Union. Highlight any four consequences of the partition of India in 1947. 2+4=6

28. Give an analysis of the cultural and political consequences of Globalisation. 3+3=6

OR

Analyse any three reasons for the resistance to Globalisation. 2+2+2=6

29. Explain briefly about Gujarat and Bihar movements. 3+3=6

OR

What reasons did the Government give for declaring a National Emergency in 1975? 6

30. Mention any two rights in the Political field.What were the four new sources of threats to security? 2+4=6

OR

What are the factors that have contributed to Pakistan's failure in building a stable democracy? 6

C 12H   **GEOGRAPHY**   **Time: 3 hrs**   **Marks 70**

General Instructions:

- Questions Paper comprises three sections- A, B, C and D
- Section A – Question no.1 to 17 are MCQ O Type Questions.
- Section B - Question no.18 to 23 are Short answer type questions (80 -100 words). Question 18 and 19 are Source Based questions.
- Section C – Questions 24 to 28 are long answer type questions (120-150 words).
- Section D - Question no. 29 and 30 are map based questions of 5 marks sub parts.

SECTION-A

(All questions are compulsory)

1] Which two cities are connected by The Union and Pacific Railways?1

a. New York and San Francisco   b. Vancouver and Halifax

c. St Petersburg and Vladivostok   d. Perth and Sydney

2] Which of the following pairs NOT matched correctly?   1

TYPES OF PORTS	EXAMPLES
a.Port of calls	Honolulu
b.Packet Station	Dover in England and Calais in France across the English Channel
c.Entre Ports	Aden for Red Sea
d.Naval Ports	Kochi in India

3] Which of the following features is related to the first stage of Demographic Transition Theory?   1

a. both fertility and mortality decline considerably

b. The population is either stable or grows slowly.

c. The population becomes urbanised, literate and has high technical knowhow and deliberately controls the family size.

d. Life expectancy is low, people are mostly illiterate and have low levels of technology.

4] Arrange the following in correct sequence: 1

APPROACHES	Broad FEATURES
a. Spatial organisation	i. Marked by the use of computers and sophisticated statistical tools. Laws of physics were often applied to map and analyse human phenomena
b. Areal Differentiation	ii. The focus was on identifying the uniqueness of any region and understanding how and why it was different from others.
c. Regional analysis	Iii Elaborate description of all aspects of a region were undertaken. The idea was that all the regions were part of a whole, i.e. (the earth); so, understanding the parts in totality would lead to an understanding of the whole
d. Exploration and description	iv Imperial and trade interests prompted the discovery and exploration of new areas. An encyclopaedic description of the area formed an important aspect of the geographer's account.

a. d-iv, c-iii, b-ii, a-I   b. b-ii, a-I, d-iv, c-iii,

c. c-iii, b-ii, d-iv, a-I   d. a-I, b-ii, , c-iii, d-iv

5] Which one of the following types of cultivation was developed by European colonists?   1

a. Kolkoz   b. Mixed farming   c. Viticulture   d. Plantation farming

6] Retail trading is concerned with the   1

a. sale of goods directly to the consumers

b. bulk business through numerous intermediary merchants and supply houses

c. pooling resources voluntarily for more profit

d. social ownership of the means of production.

7] These activities involve some of the following: the collection, production and dissemination of information or even the production of information.   1

a. Quaternary activities   b. Quinary activities

c. Primary activities   d. Secondary activities

8] Most of this type land is owned by the village 'Panchayat' or the Government. Only a small proportion of this land is privately owned. The land owned by the village panchayat comes under 'Common Property Resources'. 1
a. Current Fallow
b. Area under Permanent Pastures and Grazing Lands
c. Area under Miscellaneous Tree Crops and Groves
d. Net Area Sown

9] Which of the following minerals is an important raw material for smelting of iron ore and also used for manufacturing ferroalloys? 1
a. mica   b. copper   c. manganese   d. bauxite

10] Which of the following ports is situated at the head of Vembanad Kayal, popularly known as the 'Queen of the Arabian Sea', is also a natural harbour. This port has an advantageous location being close to the Suez-Colombo route.   1
a. Kandla   b. Kolkata   c. Kochi   d. Paradwip

11] These roads are constructed and maintained by state governments. They join the state capitals with district headquarters and other important towns.   1
a. National Highways   b. State Highways
c. District Roads   d. Rural roads

12] Which of the followings are garrison cantonment towns?   1
a. Ambala, Jalandhar, Babina   b. Salem, Jamshedpur, Bhilai
c. Chandigarh, Mugalsarai, Shillong   d. New Delhi, Bhopal, Guwahati

13] Sun rays tapped in photovoltaic cells can be converted into energy, known as 1
a. solar energy   b. nuclear energy   c. geothermal energy   d. wind energy

14] Assertion: In terms of the total area covered, manufacturing sites are much less conspicuous and concentrated on much smaller areas than that of agriculture   1
Reason: This is due to greater intensity of processes.
a .Only assertion is correct
b. Only reason is correct
c. Both assertion and the reason are correct and reason is the correct explanation for assertion

d. Both assertion and the reason are correct but reason is the not the correct explanation for assertion

15] Assertion: The Ganga, the Brahmaputra and the Barak rivers, although account for only about one-third of the total area in the country, have 60 per cent of the total surface water resources.
Reason: This is because these rivers have huge catchment areas with high precipitation.   1
a. Only assertion is correct
b. Only reason is correct
c. Both assertion and the reason are correct and reason is the correct explanation for assertion
d. Both assertion and the reason are correct but reason is the not the correct explanation for assertion

Read the following case study and answer Q 16 & 17
Ralegan Siddhi is a small village in the district of Ahmadnagar, Maharashtra. It has become an example for watershed development throughout the country.
In 1975, this village was caught in a web of poverty and illicit liquor trade. The transformation took place when a retired army personnel, settled down in the village and took up the task of watershed development. He convinced villagers about the importance of family planning and voluntary labour; preventing open grazing, felling trees, and liquor prohibition.
Voluntary labour was necessary to ensure minimum dependence on the government for financial aids. "It socialised the costs of the projects." explained the activist.
 Even those who were working outside the village contributed to the development by committing a month's salary every year.
Work began with the percolation tank constructed in the village. In 1975, the tank could not hold water. The embankment wall leaked. People voluntarily repaired the embankment. The seven wells below it swelled with water in summer for the first time in the living memory of the people. The people reposed their faith in him and his visions.

A youth group called Tarun Mandal was formed. The group worked to ban the dowry system, caste discrimination and untouchability. Liquor distilling units were removed and prohibition imposed. Open grazing was completely banned with a new emphasis on stall-feeding. The cultivation of water-intensive crops like sugarcane was banned. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged.

All elections to local bodies began to be held on the basis of consensus. "It made the community leaders complete representatives of the people. "A system of Nyay Panchayats (informal courts) were also set up. Since then, no case has been referred to the police.

A ₹ 22 lakh school building was constructed using only the resources of the village. No donations were taken. Money, if needed, was borrowed and paid back. The villagers took pride in this self-reliance. A new system of sharing labour grew out of this infusion of pride and voluntary spirit. People volunteered to help each other in agricultural operation. Landless labourers also gained employment.

16] Which of the following methods of water conservation brought prosperity in Ralegan Siddhi?   1

a. Rainwater harvesting

b. Watershed development

c. Groundwater recharge

d. Construction of dams.

17] Which of the following measures were taken to increase democratic participation in the village?   1

a. Construction of school

b. Local body election

c. Liquor prohibition

d. All of the above

SECTION-B

(Question no.18 to 23 are Short answer type question. Question 18 and 19 are Source Based questions.)

18] Read the following case study and answer the questions that follow.   3

A Case Study:

Jhabua district is located in the westernmost agro-climatic zone in Madhya Pradesh. It is, in fact, one of the five most backward districts of the country. It is characterised by high concentration of tribal population (mostly Bhils). The people suffer due to poverty which has been accentuated by the high rate of resource degradation, both forest and land. The watershed management programmes funded by both the ministries of "Rural Development" and "Agriculture", Government of India, have been successfully implemented in Jhabua district which has gone a long way in preventing land degradation and improving soil quality. Watershed Management Programmes acknowledge the linkage between land, water and vegetation and attempts to improve livelihoods of people through natural resource management and community participation. In the past five years, the programmes funded by the Ministry of Rural Development alone (implemented by Rajiv Gandhi Mission for Watershed Management) has treated 20 per cent of the total area under Jhabua district

The Petlawad block of Jhabua is located in the northernmost part of the district and represents an interesting and successful case of Government-NGO partnership and community participation in managing watershed programmes. The Bhils in Petlawad block, for example, (Sat Rundi hamlet of Karravat village), through their own efforts, have revitalised large parts of common property resources. Each household planted and maintained one tree on the common property. They also have planted fodder grass on the pasture land and adopted social-fencing of these lands for at least two years. Even after that, they say, there would be no open grazing on these lands, but stall feeding of cattle, and they are thus confident that the pastures they have developed would sustain their cattle in future.

a) What are the reasons for the accentuated poverty in Jhabua district?   1

b) What were the aims of watershed management programmes in Jhabua District? 1

c) What were the efforts of Bhils in Petlawad block, to revitalise large parts of common property resources?   1

19] See the following graph and answer the questions that follow   3
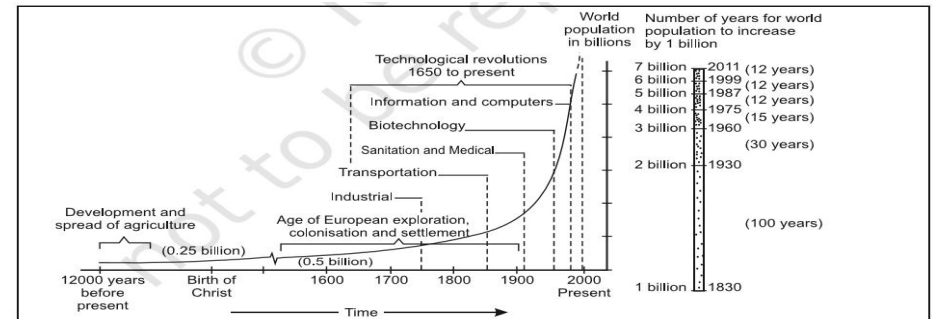
a. What was the main reason for the population growth till 1900?   1

i. transportation and bio-technology

ii. sanitation and medical

iii. bio-technology and information technology

iv. transportation and information technology

b. The annual growth rate of population in India is   1

i. 1.36%   ii 1.46%   iii. 1.64%   iv. 1.74%

c. Population decline is also a matter of concern because   1

i. life expectancy increases due to epidemics

ii. Improvement in health care facilities

iii. large scale in migration

iv. it indicates that resources that had supported a population earlier are now insufficient to maintain the population

20] Explain with examples how the availability of water and landform influence the distribution of population in the world.   3

21] Differentiate between small scale manufacturing and large scale manufacturing?   3

22] Explain the concept of Neo-determinism.   3

OR

"The approaches to the study of human geography have been evolving over the period of time". How have these schools of thoughts change the approaches of study to human geography?

23] What is satellite communication? How has it brought revolutionary changes in the field of communication in the world?   3

SECTION- C

(Questions 24 to 28 are long Answer Questions)

24] Differentiate between nomadic herding and commercial livestock rearing. Which places in the world are they practiced?   5

25] Urban waste disposal in major metropolitan cities of India has become a major cause of concern in recent years ---- Give examples. How can we overcome this problem?   5

26] How have good governance and people – oriented policies with reference to the pillars of human development, increased the values of freedom and capabilities?   5

OR

"The ways to measure human development are constantly being redefined". Evaluate the attainments and short fall in human development.

27] What are the important strategies for agricultural development followed in the post – independence period?   5

28] Explain the main aims of Bharmaur Tribal Area Development Plan.5

OR

Introduction of canal irrigation has brought about a perceptible transformation in the agricultural economy of the region--- give reasons in support of the statement.

SECTION- D

(Question no. 29 and 30 are map based questions of 5 marks sub parts)

29. On the given political map of the world, the following seven features are shown. Identify any five of these features and write their correct names on the lines marked near each feature.   5x1=5

A A Shipping Canal   B An area of Extensive Commercial Grain Farming

C A Nomadic Herding area   D An international Airport

E An international Seaport   F Largest country of North America

G Transcontinental Railway

30] On the given political outline map of India, locate and label ANY FIVE of the following with appropriate symbol: 5x1=5

1. A state with lowest level of urbanization   2. Chennai – Mega city

3. Ratnagiri Iron Ore Mines   4. Hazaribagh Copper Mines

5. Raniganj Coal Field   6. Mathura Oil Refinery

7. Balaghat Manganese Mines.

General instructions:

1This question paper contains two parts:

Part A – Macro economics (40 marks)

Part B – Indian Economic Development (40 marks)

2 Marks for questions are indicated against each question.

3This paper contains 20 Multiple Choice Questions type questions of 1 mark each.

4This paper contains 4 Short Answer Questions type questions of 3 marks each to be answered in 60 to 80 words,

5This paper contains 6 Short Answer Question type questions of 4 marks each to be answered in 80 to 100 words.

6This paper contains 4 long Answer Questions type questions of 6 marks each to be answered in 100 to 150 words.

_____

PART A (MACRO ECONOMICS)

1] Read the following statements carefully:

Statement 1: Investment is a function of rate of interest, I = f (i) and it has an inverse relation with the rate of interest.

Here, i = rate of interest i.e. rate at which banks grant loans to the firms.

Statement 2: Autonomous Investment remains constant irrespective of the level of income.

In the light of given statements, choose the correct alternative from the following: 1

a] Statement 1 is true and statement 2 is false.

b] Statement 1 is false and statement 2 is true.

c] Both statements are true.   d] Both statements are false.

2] 'Owing to Russia- Ukraine crisis, the world is experiencing rising crude prices due to supply-side issues.'

Identify the most likely impact on the Balance of Payment situation of the Indian economy from the following: 1

a] Production of cars in India will rise.   b] Inflow of US dollar in India will rise

c] Production and sale of cycles in India will rise.

d] Outflow of US dollars from India will rise.

3] Money facilitates the acts of sale and purchase and also acts as a yardstick of value to which all goods and services can be attached to.

The above functions of money are _____.

(Fill up the blank with correct alternative)   1

a] Primary functions of money   b] Secondary functions of money

c] Contingent functions of money   d] None of the above

4] Read the following statements carefully:

Statement 1: Borrowing by private firms and the government is recorded in the debit side of the capital account.

Statement 2: Investment income paid to non residents recorded in the debit side of the current account.

In the light of given statements, choose the correct alternative from the following: 1

a] Statement 1 is true and statement 2 is false.

b] Statement 1 is false and statement 2 is true.

c] Both statements are true.   d] Both statements are false.

5] Read the following statement carefully. Write True or False with a reason.   1

Intermediate goods are included in the estimation of national income.

OR

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On the basis of the above diagram answer the following question:

Choose the correct alternative to be filled in the given blank:

a] Money flow

b] Real Flow

c] Circular flow

d] All of the above
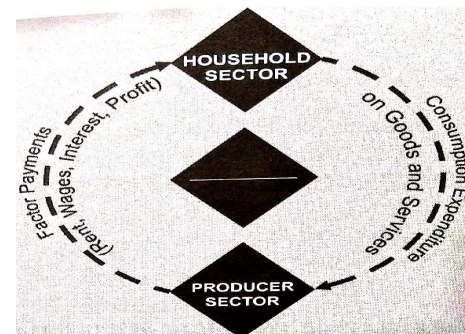
6] An economy is in equilibrium. From the following data calculate autonomous consumption.   1

Income = Rs 5000, Marginal Propensity to Save = 0.2,

Investment expenditure = Rs 800

a] Rs 220   b] Rs 200

c] Rs 100   d] None of the above

OR

Given the consumption function C= 100 +0.75 Y, the investment multiplier is   1

a] Equal to unity   b] Equal to 4

c] Equal to 0.25   d] Equal to zero

7] Excess demand or inflationary gap will be controlled by:

i] Increasing bank rate by the Reserve Bank of India

ii] Sale of government securities

iii] Increasing Repo Rate by the Reserve Bank of India

iv] Reducing revenues (taxes) by the central govt.

Alternatives: (Choose the correct one)   1

a] i], ii] and iii] are correct   b] ii], iii] and iv] are correct

c] iii], iv] and i] are correct   d] iv], i] and ii] are correct

8] **Read the following statements – Assertion (A) and Reason (R)**

Assertion (A): Transfer of funds to relatives abroad will be entered on debit side of current account.

Reason (R): It involves outflow of foreign exchange from the domestic economy.

From the given alternative choose the correct one: 1

Alternatives:

a Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

b Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).

c Assertion (A) is true but Reason(R) is false

d Assertion (A) is false but Reason (R) is true.

9] Read the following statements carefully.

Statement 1- Investment multiplier has an inverse relation with MPC and a direct relation with MPS.

Statement 2 - The value of investment multiplier lies between 0 to ∞

Choose the correct option.   1

a] Statement 1 is true and statement 2 is false.

b] Statement 1 is false and statement 2 is true.

c] Both statements are true.

d] Both statements are false.

10] **Read the following statements – Assertion (A) and Reason (R)**

Assertion (A): APS (Average Propensity to Save) is never negative.

Reason (R): APS shows saving per unit of total income.

From the given alternative choose the correct one: 1

Alternatives:

a Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

b Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).

c Assertion (A) is true but Reason(R) is false

d Assertion (A) is false but Reason (R) is true.

11] a] In the city of Agra lies one of the seven wonders i.e. the Taj Mahal. But, with the proceeding years, its marbles are turning yellow in colour. A lot of factories are set up in Agra. Explain the economic concept mentioned in the above lines. $1\frac{1}{2}$

b] Find Net Value Added at Factor Cost: $1\frac{1}{2}$

	Components	Rs in Lakh
A	Sales	100
B	Closing stock	20
C	Excise duty	15
D	Opening stock	10
E	Depreciation	12

12] The government of India launched the 'Incredible India' campaign to promote tourism in India. How will this affect the price of foreign exchange? 3

OR

How exchange rate is determined under a free market exchange rate system.

13] a] What is autonomous investment? Explain diagrammatically. 2

b] Why does the consumption curve of an involuntary unemployed worker start from positive y-axis, even at zero level of income? Use diagram. 2

14] Show inflationary gap using a well labelled diagram. Suggest any two monetary measures to correct the situation of inflationary gap. 4

15] 'Reserve Ratio and credit creation are inversely related'. Do you agree with the given statement? Justify your answer with a suitable numerical example. 4

OR

As a banker to the government, the Reserve Bank receives and pays money on behalf of the various government departments. As it has offices and sub-offices in 29 locations, the Reserve Bank appoints other banks to act as its agents for undertaking the banking business on behalf of the governments. The Reserve Bank pays agency bank charges to the banks for undertaking the government business on its behalf. The Reserve Bank has well defined obligations and provides several services to the governments.

Explain the functions of the Reserve Bank as:

i] Banker to the Government   ii] Banker's Bank

16] USA has offered to finance India's first bullet train project, estimated to cost $10 billion at an interest rate of 2% for a period of 20 years. This inflow of currency in the form of loan will help to improve infrastructure in India for sure.

a] Find out example of revenue expenditure and capital receipt from the above information and give reason support your answer. 2

b] Elaborate the objective of 'Economic stability' in the light of govt budget. 2

c] Giving reasons categorise the following into direct and indirect tax: 2

i] Wealth tax   ii] GST

17] i] State and discuss any two precautions to be considered while estimating national income by Income method. 3

ii] What is meant by Gross Domestic Capital Formation? State its components. 3

OR

i] From the following data about the Government Budget, determine: 3

a] Non-debt Creating Capital Receipt

b] Fiscal Deficit

c] Primary Deficit

	Particulars	Rs in crore
i	Total Receipts excluding borrowing	20,000
ii	Revenue Deficit	8,000
iii	Capital Expenditure	22,000
iv	Revenue Expenditure	15,000
v	Interest Payment	30% of Revenue Deficit

ii] a] Why is payment of interest a revenue expenditure? 1

b] Giving reasons categorise the following as tax revenue or non tax revenue.

Excise duty and License Fee 2

PART B (INDIAN ECONOMIC DEVELOPMENT)

18] In the 20th century, under British rule, India had an export surplus, where was the surplus used? 1

a] To invest in capital goods industries in India.

b] To invest in capital goods industries in Britain.

c] To meet the official and war expense of the Britain.

d] To pay the salaries of Indian government employees.

19] Land reforms aimed at _____ (Fill up the blank with correct alternatives) 1

a] increasing profit in the rural economy.   b] increasing social welfare

c] promoting equality in Indian agriculture   d] none of these

20] Which of the following countries has the least urbanised population? 1

a] India   b] China   c] Pakistan   d] Nepal

OR

In China, commune system is related to:

a] agriculture   b] industry   c] services   d] none of these

21] In which year was nationalisation of commercial banks started?   1

a] 1969   b] 1979   c] 1980   d] 1991

22] Identify the correct pair of statement from column I and column II.   1

	Column I		Column II
A	Reforms introduced in China	i	1976
B	First Five Year Plan in Pakistan	ii	1955
C	India	iii	Has the most skewed sex ratio
D	Introduction of Commune system in China	iv	1976

Alternatives:

a] A – i   b] B – ii   c] C – iii   d] D – iv

23] Read the following statements carefully and choose the correct alternatives: 1

Statement 1: The 'Skill India' programme was launched by the Government of India in order to increase human capital formation.

Statement 2: Human capital formation refers to the stock of 'skill and expertise' of a nation at a point of time.

a] Statement 1 is true but statement 2 is false.

b] Statement 2 is true but statement 1 is false.

c] both the statements are true.

d] both the statements are false

24] Read the following statements carefully and choose the correct alternatives: 1

Statement 1: Under Commune system, peasants shared farm implements and pooled their land to create larger fields that could yield greater output.

Statement 2: It focussed on widespread industrialisation of the economy.

a] Statement 1 is true but statement 2 is false.

b] Statement 2 is true but statement 1 is false.

c] Both the statements are true.

d] Both the statements are false

25] Expanding production activity is the principal cause of environmental degradation in the _____. (Fill up the blank with correct alternative).   1

a] rural areas   b] urban areas   c] both rural and urban areas   d] none of these

OR

When was the Environment (Protection) Act passed?

a] 1984   b] 1986   c] 1988   d] 1990

26] **Read the following statements – Assertion (A) and Reason (R)**

Assertion (A): A farmer working on his farm is an example of a casual worker.

Reason (R): Casual workers are not entitled to social secutity.

From the given alternative choose the correct one: 1

Alternatives:

a Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

b Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).

c Assertion (A) is true but Reason(R) is false

d Assertion (A) is false but Reason (R) is true.

27] **Read the following statements – Assertion (A) and Reason (R)**

Assertion (A): After independence, India adopted "mixed economy" as its path of development or the strategy of growth.

Reason (R): The planners and politicians of the country wanted to combine the merits of both socialism and capitalism.

From the given alternative choose the correct one: 1

Alternatives:

 a Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

b Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).

c Assertion (A) is true but Reason(R) is false

d Assertion (A) is false but Reason (R) is true.

28]
Interpret the given picture on account of environmental degradation in India.   3

29] Diversification of crop production is the need of the hour for Indian agriculture.'
Comment.   3

OR

Why do people work?

30] Answer the following questions on the basis of the following data:

Country	HDI value	HDI Rank	Life expectancy at Birth (years)
India	0.645	130	69.7
China	0.761	87	76.9
Pakistan	0.557	154	67.3

Source: Human Development Report 2019 and 2020

a] Comment upon the HDI rank among the three countries.   2
b] Which country has the highest life expectancy   2
31] a] Define fiscal reforms.   2
b] Name any two Maharatna Company.   2

OR

a] Distinguish between marketable surplus and buffer stock.
b] What are land reforms?
32] a] Why government intervention is necessary in education and health?   2
b] Establish the need for acquiring information relating to health and education
expenditure for the effective utilisation of human resources?   2

33] a] State the meaning of the term 'Livestock'.   2
b] Why is agricultural diversification essential for sustainable livelihoods?   2
c] Bring out the importance of horticulture as a source of diversification.   2

OR

a] Write two observations suggesting areas of concern in higher education.   3
b] Taking clue from the image given below highlight the principal differences
between two types of workers.   3
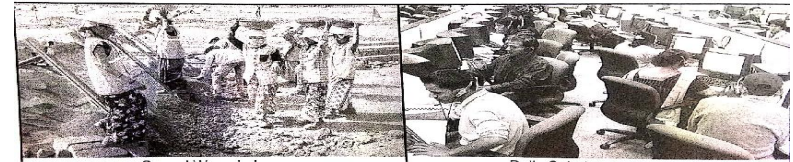
34] Read the following case study carefully and answer questions 1-2 on the basis of the same:

In light of the many potential benefits of International Trade such as increased sales/revenues, cost reductions, technology transfers, the search for higher quality products, industry development, general economic growth.......etc, several countries have surprisingly either chosen to abstain altogether from the practice of trading goods and services (imports, exports or both)with other nations, or simply imposed economic and regulatory hurdles designed to drastically restrict the flow (import/export) of tradable goods and services across their borders. More specifically, countries such as China, Cuba, Iraq, India and even the United States, to a certain degree at some points in their history, subscribed to one form of protectionism (trade control) or another.

Source: International Journal of Economic Research, 2008

a] State some implications of inward looking trade strategy of India (1950-1990).   3
b] Which forms of protection can be used as a medium to restrict imports?   3

Preparatory Examination 1 – 2022-23

Class 12   **MATHEMATICS**   *Time* :3 Hr   *F.M.* :**80**

General Instructions:
1.This Question paper contains **- five sections** A, B, C, D and E. Each section is compulsory. However, there are internal choices in some questions.
2. **Section A** has 18 **MCQ's and 02** Assertion-Reason based questions of 1 mark each.
3. **Section B** has 5 **Very Short Answer (VSA)**-type questions of 2 marks each.
4. **Section C** has 6 **Short Answer (SA)**-type questions of 3 marks each.
5. **Section D** has 4 **Long Answer (LA)**-type questions of 5 marks each.
6. **Section E** has 3 **source based/case based/passage based/integrated units of assessment** (4 marks each) with sub parts.

SECTION A

Multiple Choice Questions
Each question carries 1mark

Q1.IfA=$\begin{bmatrix} 0 & 2 \\ 3 & -4 \end{bmatrix}$ and kA=$\begin{bmatrix} 2 & 3a \\ 2b & 24 \end{bmatrix}$ then the values of k, a, b are

(a)-6,-12,-18   (b)-6,4,9   (c)-6,-4,-9   (d) None of these

Q2.If A is a square matrix of order 3, $|A| = -5$,then $|A^{-1}|$ is equal to

(a)1/5   (b)-1/5   (c)5   (d) None of these

Q3. If $f(x) = \begin{cases} 1 & , if\ x \le 3 \\ ax + b, & if\ 3 < x < 5 \\ 7 & , if\ 5 \le x \end{cases}$ then the values of a and b so that f(x) is

continuous are
  (a) a= 3 ,b= 3   (b) a = 3 ,b= 4   (c) a= 3 ,b= - 8   (d) None of these

Q4. If $f'(x) = 3x^2 - \frac{4}{x^3}$

$(a)x^3 + \frac{2}{x^2} + c$ $(b)x^3 - \frac{2}{x^2} + c$ $(c)-x^3 + \frac{2}{x^2} + c$ (d) None of these

Q5. The function f: R→ R given by f(x)= - |x-1| is
(a) continuous as well as differentiable at x = 1
(b) not continuous but differentiable at x = 1
(c) continuous but not differentiable at x = 1
(d) None of these

Q6.Which of the following is not a homogeneous function of x and y?

$(a)\ x^2 + 2xy$ $(b)\ 2x - y$ $(c)cos^2\left(\frac{y}{x}\right) + \frac{y}{x}$ (d) None of these

Q7.Based on the given shaded region as the feasible region in the graph, at which point (s) is the objective function Z=3x+9y maximum?
(a) Point B
(b) Point C
(c) every point on the line segment CD
(d) None of these
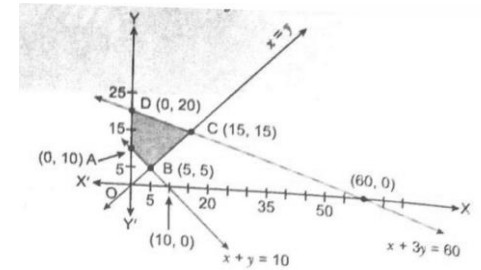
Q8. If $\vec{a}$ is a nonzero vector of magnitude a and λ a nonzero scalar, then $λ\vec{a}$ is unit vector if
(a) λ =1   (b) λ = - 1   (c) a=1/ |λ| (d) None of these

Q9. The value of $\int_2^8 \frac{\sqrt{10-x}}{\sqrt{x} + \sqrt{10-x}}$ dx is equal to

(a)3   (b) - 3   (c) 5   (d) None of these

Q10.IfA,B are non-singular square matrices of the same order, then$(AB^{-1})^{-1}=$
(a)$A^{-1}B$ (b)A$^{-1}B^{-1}$ (c)A^{-1} (d) None of these

Q11. In a linear programming problem, the constraints on the decision variables x and y are x-3y ≥ 0, y ≥ 0,0 ≤x≤ 3. The feasible region
(a) is not in the first quadrant
(b) is bounded in the first quadrant
(c) is unbounded in the first quadrant
(d) None of these

Q12.Value of k, for which A= $\begin{bmatrix} k & 8 \\ 4 & 2k \end{bmatrix}$ is a singular matrix is

(a) 4   (b)-4   (c) ±4   (d) None of these

Q13.Given that A = [a$_{ij}$] is a square matrix of order 3 x 3 and |A|= -7, then the value of $\sum_{i=1}^{3} a_{i2} A_{i2}$, where Aij ,denotes the cofactor of element a_{ij} is
(a)7   (b)-7   (c) 0   (d) None of these

Q14.If A and B are two events such that P (A) ≠ 0 and P(B/A) = 1, then
(a) $A \subset B$ (b) $B \subset A$ (c) $B = \emptyset$ (d) None of these

Q15.The solution of the differential equation $\tan y\ sec^2x\ dx + \tan x\ sec^2y\ dy = 0$ is
(a)$\tan x + \tan y$ = k   (b)$\tan x$. $\tan y$ = k
(c)$\frac{\tan x}{\tan y} = k$ (d) None of these

Q16. Value of $\frac{d^2y}{dx^2}$ if x$=at^2, y = 2at$ is

(a)$\frac{-1}{2at^3}$　　　　(b)$\frac{1}{2at^2}$　　　　(c)$\frac{-1}{2at^2}$　　　　(d) None of these

Q17. In the triangle ABC, which of the following is not true?

(a) $\overrightarrow{AB} + \overrightarrow{BC} + \overrightarrow{CA} = \vec{0}$　　　　(b) $\overrightarrow{AB} + \overrightarrow{BC} - \overrightarrow{AC} = \vec{0}$

(c) $\overrightarrow{AB} + \overrightarrow{BC} - \overrightarrow{CA} = \vec{0}$　　　　(d) None of these

Q18. The vector equation of the line through the points (3,4,-7) and (1,-1, 6) is

(a) $\vec{r} = 3\hat{\imath} + 4\hat{\jmath} - 7\hat{k} + \lambda\,(3\hat{\imath} + 7\hat{\jmath} + 2\hat{k})$

(b) $\vec{r} = (3\hat{\imath} + 4\hat{\jmath} - 7\hat{k}) + \lambda\,(-2\hat{\imath} - 5\hat{\jmath} + 13\hat{k})$

(c) $\vec{r} = 3\hat{\imath} + 4\hat{\jmath} - 7\hat{k} + \lambda\,(3\hat{\imath} - 7\hat{\jmath} + 5\hat{k})$

(d) None of these

Assertion-Reason Based Questions

In the following questions, a statement of assertion(A) is followed by a statement of Reason(R).Choose the correct answer out of the following choices.
(a)Both A and R are true and R is the correct explanation of A.
(b)Both A and R are true but R is not the correct explanation of A.
(c)A is true but R is false.
(d)A is false but R is true.

Q19.Assertion(A): $sin^{-1}(-x) = -sin^{-1}x; x \in [-1, 1]$

Reason(R): $sin^{-1}: [-1,1] \rightarrow \left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$ is a bijection map

Q20.Assertion (A): Parametric equation of a line　$\frac{x-1}{2} = \frac{y-2}{3} = \frac{z}{4}$ are $x = 1 + 2\lambda$, $y = 2 + 3\lambda, z = 4\lambda$, where λ is a parameter.

Reason(R):.The Parametric equation of a line
$\frac{x-x_1}{a} = \frac{y-y_1}{b} = \frac{z-z_1}{c}$ are $x = x_1 + a\lambda, y = y_1 + b\lambda, z = z_1 + c\lambda$,
 where λ is a parameter.

SECTION B
(This section comprises of very short answer type-questions (VSA) of 2marks each.)

Q 21. Write the following function in the simplest form:
$$tan^{-1}\left(\frac{\cos x - \sin x}{\cos x + \sin x}\right), -\frac{\pi}{4} < x < \frac{3\pi}{4}$$
OR

Let $f: N \rightarrow N$ given by $f(x) = x^2$, check injectivity and surjectivity of f

Q 22. Sand is pouring from a pipe at the rate of 12 cm³/s. The falling sand forms a cone on the ground in such a way that the height of the cone is always one-sixth of the radius of the base. How fast is the height of the sand cone increasing when the height is 4 cm?

Q23. If $\hat{a}$ and $\hat{b}$ are unit vectors, then prove that
$|\hat{a} + \hat{b}| = 2 \cos\frac{\theta}{2}$, where θ is the angle between them
OR

Find the direction cosines of the following line:
$\frac{3-x}{-1} = \frac{2y-1}{2} = \frac{z}{4}$

Q 24. Find $\frac{dy}{dx}$ at $x = 1, \ y = \frac{\pi}{4}$ if $\sin^2 y + \cos xy = K$

Q25. If $\vec{a} = \hat{\imath} + \hat{\jmath} + \hat{k}, \vec{a}.\vec{b}. = 1 \ and \ \vec{a} \times \vec{b} = \hat{\jmath} - \hat{k}, then \ find \ |\vec{b}|$

SECTION C
(This section comprises of short answer type questions (SA) of 3marks each)

Q 26. Find: $\int \frac{x+1}{(x^2+1)x} \ dx$

Q 27. Assume that the chances of a patient having a heart attack is 40%. Assuming that a meditation and yoga course reduces the risk of heart attack by 30% and prescription of certain drug reduces its chance by 25%. At a time a patient can choose any one of the two options with equal probabilities. It is given that after going through one of the two options, the patient selected at random suffers a heart attack. Find the probability that the patient followed a course of meditation and yoga.

OR

A class has 15 students whose ages are 14, 17, 15, 14, 21, 17, 19, 20, 16, 18, 20, 17, 16, 19 and 20 years.One student is selected in such a manner that each has the same chance of being chosen and the age X of the selected student is recorded. What is the probability distribution of the random variable X? Find mean of X?

Q 28. Evaluate:　$\int_0^{\frac{\pi}{4}} \frac{\sin x + \cos x}{9 + 16 \sin 2x} dx$

OR

Evaluate $\int_{-2}^{4} |x + 2| dx$

Q 29. Solve the differential equation:$(y - \sin^2 x)dx + \tan x \, dy = 0$

OR

Find the general solution of the differential equation:$(x^3 + y^3)dy = x^2 y dx$

Q 30. Minimize: Z= - 3x+4y
　　　Subject to: x + 2y ≤ 8, 3x + 2y ≤ 12, x ≥0, y ≥ 0

Q31. Find $\int \frac{2x}{(x^2+1)(x^2+2)} dx$

SECTION D
(This section comprises of long answer-type questions (LA) of 5 marks each)

Q 32. Find the area of the region bounded by the ellipse $\frac{x^2}{16} + \frac{y^2}{9} = 1$

Q 33. Show that the relation R on **R** defined as
R= $\{(a, b): a \leq b)\}, is \ reflexive$ and transitive but not symmetric.

Q 34 Find the coordinates of the foot of perpendicular and the length of the perpendicular drawn from the point P (5, 4, 2) to the line $\vec{r} = -\hat{i} + 3\hat{j} + \hat{k} + \lambda(2\hat{i} + 3\hat{j} - \hat{k})$. Also find the image of P in this line.

OR

Find the shortest distance between the lines

$\frac{x-3}{3} = \frac{y-8}{-1} = \frac{z-3}{1}$ and $\frac{x+3}{-3} = \frac{y+7}{2} = \frac{z-6}{4}$

Q 35. Determine the product $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}\begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and use it to solve the

system of equations $x - y + z = 4, x - 2y - 2z = 9, 2x + y + 3z = 1$

OR

Solve the following system of equations

$\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4; \frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1; \frac{6}{x} + \frac{9}{y} - \frac{20}{z} = 2$

SECTION-E

(This section comprises of 3 case-study/passage-based questions of 4 marks each.First two case study questions have three sub-parts(i),(ii),(iii)of marks 1, 1,2 respectively.The third case study question has two sub-parts of 2markseach.)

Q 36.Case-Study1:Read the following passage and answer the questions given below.

On the request of villagers, a construction agency designs a tank with the help of an architect. Tank consists of rectangular base with rectangular sides, open at the top so that its depth is 2 m and volume is 8 m³ as shown below:
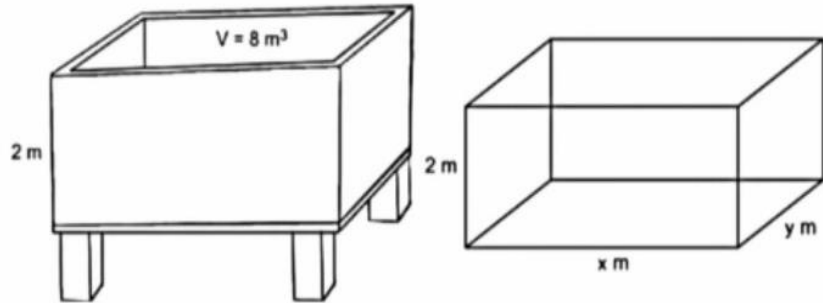
(i)If x and y represent the length and breadth of its rectangular base if the construction of tank cost ₹70 per sq. metre for base and ₹45 per square meter for sides, then express cost function C as a function of x.
(ii) Find the critical point of C.
(iii) Find the interval in which C is strictly increasing/strictly decreasing.

OR

For minimizing the cost C
(a) find the values of x and y.
(b) find the minimum cost.

Q 37.Case-Study2:Read the following passage and answer the questions given below.

In the Board Exam for class 12 a function is given f(x) = x² + mx +3, x ∈ [0,10]

(i) Is this function continuous in [0, 10]?
(ii) If 4 is the critical point of f then find the value of m.
(iii) Use First Derivative Test to find x for which f is maximum/minimum.

OR

Use Second Derivative Test to find the point of local minima/local maxima. Also find the points of absolute maxima/absolute minima and absolute maximum/absolute minimum of f.

Q 38. After observing attendance register of class XII, class teacher Shri Mishra comes on conclusion that 30% students have 100% attendance and 70% students are irregular to attend class. When he observed previous year result, he found that 70% of all students who have 100% attendance attain distinction marks while 10% irregular students attain distinction marks. At the end of the year, one student is chosen at random from the class
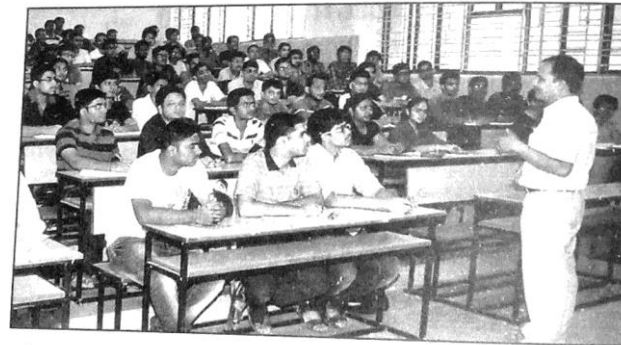
(i) Find total probability of the selected student having distinction marks.
(ii) If in random selection, selected student has distinction marks, what is the probability that the student is irregular?

General Instructions:

(1) There are 35 questions in all. All questions are compulsory

(2) This question paper has five sections: Section A, Section B, Section C, Section D and Section E. All the sections are compulsory.

(3) Section A contains eighteen MCQ of 1 mark each, Section B contains seven questions of two marks each, Section C contains five questions of three marks each, section D contains three long questions of five marks each and Section E contains two case study based questions of 4 marks each.

(4) There is no overall choice. However, an internal choice has been provided in section B, C, D and E. You have to attempt only one of the choices in such questions.

(5). Use of calculators is not allowed.

SECTION A

1. Two identical metal balls with charges +2Q and -Q are separated by same distance and exert a force F on each other. They are joined by a conducting wire, which is then removed. The force between them will now be:

(a) F   (b) F/2   (c) F/4   (d) F/8

2. The electric potential on the axis of an electric dipole at a distance 'r' from its centre is V. Then the potential at a point at the same distance on its equatorial line will be

(a) 2V   (b) – V   (c) V/2   (d) zero

3. The magnetic field at the centre of a current carrying circular loop is B. If the radius of the loop is doubled keeping the current unchanged, the magnetic field at the centre of loop will become:

(a) B/2   (b) B/4   (c) B   (d) 4B

4. A cell of e.m.f. (E) and internal resistance (r) is connected across a variable external resistance (R). The graph of terminal potential (V) versus R is
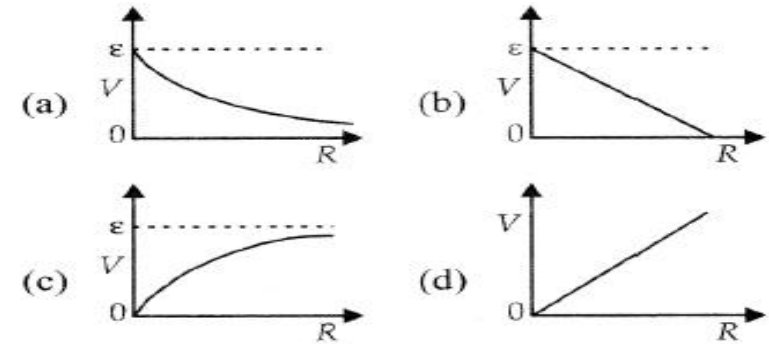
5. A current I_1 carrying wire AB is placed near another long wire CD carrying current I_2. If the wire AB is free to move, it will have

(a) rotational motion only

(b) translational motion only

(c) rotational as well as translational motion

(d) neither rotational nor translational motion
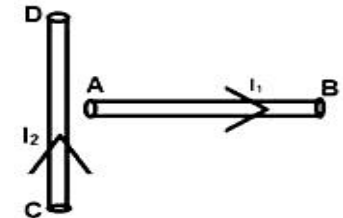
6. The coefficient of mutual induction between two circuits is equal to the e.m.f. produced in the one circuit when current in second circuit is

(a) kept steady at 1 A   (b) cut off at 1 A level

(c) changed at the rate of 1 A/s   (d) changed from 1 A/s to 2 A/s

7. In the A.C. circuit shown, keeping 'K' pressed, if an iron rod is inserted into the coil, the bulb in the circuit

(a) gets damaged

(b) glows less brightly

(c) glows more brightly

(d) glows with same brightness
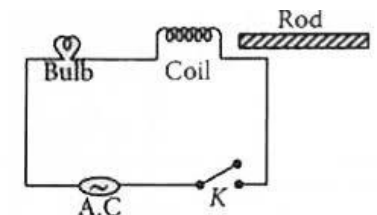
8. If $\vec{E}$ and $\vec{B}$ represent electric and magnetic field vectors of the electromagnetic wave, the direction of propagation of electromagnetic wave is along

(a) $\vec{E}$ (b) $\vec{B}$ (c) $\vec{B} \times \vec{E}$ (d) $\vec{E} \times \vec{B}$

9. In electromagnetic induction, the induced e.m.f. is independent of

(a) time   (b) change in flux   (c) number of turns in coil   (d) resistance of coil

10. The work function for a metal is 3 eV. To emit a photoelectron of energy 2 eV from the surface of this metal, the wavelength of the incident light should be:

(a) 6187 Å   (b) 4125 Å   (c) 12375 Å   (d) 2486 Å

11. A biconcave lens of power P vertically splits into two identical plano concave parts. The power of each part will be

(a) 2P   (b) P/2   (c) P   (d) 1/P

12. Which is reverse biased diode?
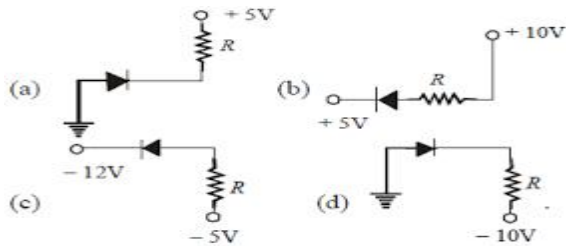
13. The current in the primary coil of a pair of coils changes from 7 A to 3 A in 0.04 s. The mutual inductance between the two coils is 0.5 H. The induced emf in the secondary coil is

(a) 50 V   (b) 75 V   (c) 100 V   (d) 220 V

14. A full wave rectifier circuit along with the output is shown in figure. The contribution from diode 'D₁' is
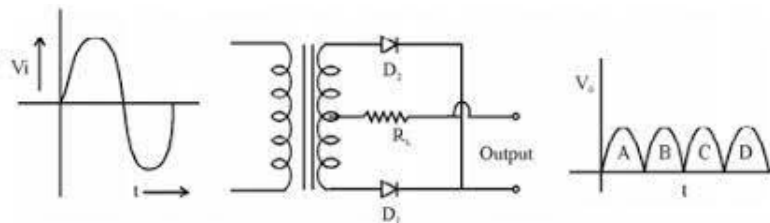
(a) C   (b) A, C   (c) B, D   (d) A, B, C, D

15. In a double slit experiment with monochromatic light, fringes are obtained on a screen placed at some distance from slits. If the screen is moved by 5×10^{-2} m towards the slit the change in fringe width is 3×10^{-2} m. If the distance between slits is 10^{-3} m, the wavelength of the used light is

(a) 6×10^{-7} m   (b) 5×10^{-7} m   (c) 6×10^{-7} cm   (d) 5×10^{-7} cm

Assertion – Reason: 16 to 18

Two statements are given-one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true and R is NOT the correct explanation of A

(c) A is true but R is false

(d) A is false but R is also false

16. Assertion (A): The temperature coefficient of resistance is positive for metals and negative for p-type semiconductors.

Reason (R): The effective charge carriers in metals are negatively charged electrons, whereas in p-type semiconductors, they are positively charged.

17. Assertion (A): No interference pattern is detected when two coherent sources are infinitely close to each other.

Reason (R): Fringe width is inversely proportional to separation between the slits.

18. Assertion (A): Photoelectric process is instantaneous process.

Reason (R): When photons of energy greater than work function of metal are incident on a metal, the electrons from metal are emitted with no time lag.

SECTION B

19. Identify the electromagnetic waves whose wavelengths vary as

(a) 10^{-12} m $< \lambda < 10^{-8}$ m   (b) 10^{-3} m $< \lambda < 10^{-1}$ m

Write one use for each.

(a) Determine the source frequency which drives the circuit in resonance.

20. A variable frequency A.C. source is connected to a capacitor. How will the displacement current change with decrease with frequency?

21. A converging lens of refractive index 1.5 is kept in a liquid medium having same refractive index. What is the focal length of the lens in this medium? Justify your answer.

OR

What happens to the focal length of a convex lens when it is immersed in water? Given refractive index of the material of lens is greater than that of water. Justify your answer.

22. A plane wave front AB propagating from denser medium (1) into a rarer medium (2) is incident on the surface P_1P_2 separating the two media as shown in figure.
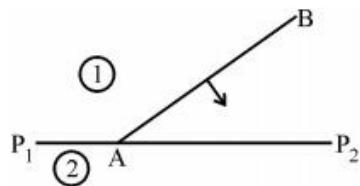
Using Huygens' Principle, draw the secondary wavelets and obtain the refracted wave front in the diagram.

23. (a) In the following diagram, which bulb out of B_1 and B_2 will glow and why?
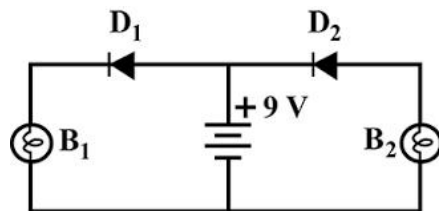
(b) What happens when a forward bias is applied to a p-n junction?

24. A metallic spherical shell has an inner radius R_1 and outer radius R_2. A charge +q is placed at the centre of the spherical cavity. What will be the surface charge density on
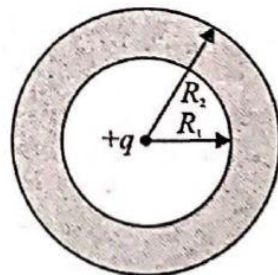
(a) the inner surface and

(b) the outer surface?

25. In Young's double slit experiment the slits are separated by 0.28 mm and the screen is placed 1.4 m away. The distance between the central bright fringe and the fourth bright fringe is measured to be 1.2 cm. Determine the wavelength of light used in this experiment.

SECTION C

26. Two long straight parallel wires A and B separated by a distance d, carry equal current I flowing in same direction as shown in the figure.

(a) Find the magnetic field at a point P situated between them at a distance x from one wire.
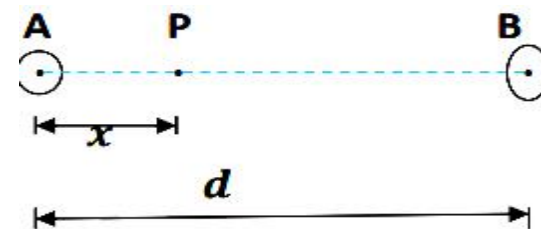
(b) Show graphically the variation of the magnetic field with distance x for $0 < x < d$.

27. A rectangular loop of wire of size 2.5 cm × 4 cm carries a steady current of 1 A. A straight wire carrying 2 A current is kept near the loop as shown. If the loop and the wire are coplanar, find the

(a) torque acting on the loop and

(b) the magnitude and direction of the force on the loop due to the current carrying wire.
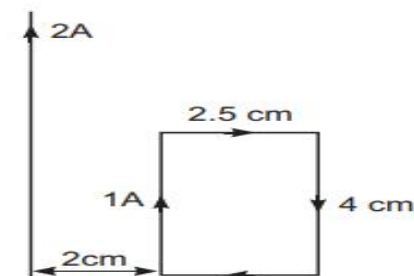
28. An alternating voltage E = $E_0 \sin \omega t$ is applied to a circuit containing a resistor R connected in series with a black box. The current in the circuit is found to be I = $I_0 \sin (\omega t + \frac{\pi}{4})$.

(a) State whether the element in the black box is a capacitor or inductor.

(b) Draw the corresponding phasor diagram and find the impedance in terms of R.

OR

A series LCR circuit containing L = 5.0 H, C = 80 μF, R = 40 Ω is connected to a variable frequency 230 V source.

(b) Calculate the impedance of the circuit and current at resonance.

(c) Show that potential drop across LC combination is zero at resonating frequency.

29. Light of wavelength 2000 nm falls on a metal surface of work function 4.2 eV.

(a) What is the kinetic energy (in eV) of the fastest electrons emitted from the surface?

(b) What will be change in the energy of the emitted electrons if the intensity of light with same wavelength is doubled?

(c) If the same light falls on another surface of work function 6.5 eV, what will be the energy of emitted electrons?

OR

(a) Define the term 'threshold frequency' in relation to the phenomenon of photoelectric effect.

(b) An alpha particle and a proton are accelerated from rest by the same potential. Find the ratio of their de Broglie wavelengths.

30. (a) Plot a graph showing the variation of photo current versus collector potential for three different intensities $I_1 > I_2 > I_3$, two of which (I_1 and I_2) have the same frequency v and the third has frequency $v_1 > v$.

(b) Explain the nature of the curves on the basis of Einstein's equation.

SECTION D

31. (a) Draw a sketch of equipotential surfaces due to a single charge (- q), depicting the electric field lines due to the charge.

(b) Obtain an expression for the work done to dissociate the system of three charges placed at the vertices of an equilateral triangle of side 'd' as shown below. [2+3]
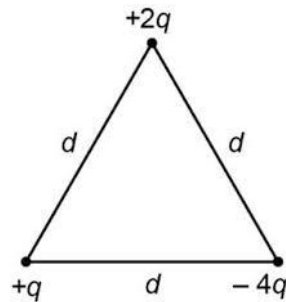
OR

(a) Draw 3 equipotential surfaces corresponding to a field that uniformly increases in magnitude but remains constant along Z- direction. How are these surfaces different from that of a constant electric field along Z- direction?

(b) In the following arrangement of capacitors, the energy stored in the 6 µF capacitor is E.

Find the value of the following:

(i) Energy stored in 12 µF capacitor.

(ii) Energy stored in 3 µF capacitor.

(iii) Total energy drawn from the battery.

[Find all the answers in terms of E]

[2+3]
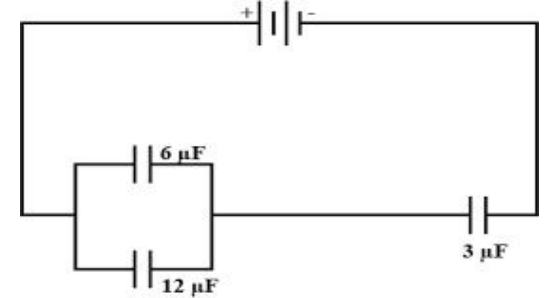
32. (a) Explain the term drift velocity of electrons in a conductor. Hence obtain the expression for the current through a conductor in terms of drift velocity.

(b) Two cells of emfs E_1 and E_2 and internal resistancer_1 and r_2 respectively are connected in parallel.
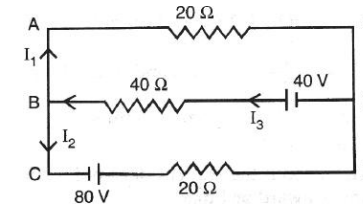
Deduce the expression for the

(i)equivalent emf of the combination

(ii)equivalent internal resistance of the combination [2+3]

OR

(a) Derive the equation of the balanced state in a Wheatstone bridge using Kirchhoff's laws.

(b) Use Kirchhoff's laws to determine the value of current I_1 in the given circuit.

[2+3]

33. (a) (i) Draw the intensity distribution as function of phase angle when diffraction of light takes place through coherently illuminated single slit.

(ii) Write two points of difference between the phenomena of interference and diffraction.

(b) An equilateral glass prism has a refractive index 1.6 in air. Calculate the angle of minimum deviation of the prism, when kept in a medium of refractive index $4\sqrt{2}/5$.

[3+2]

OR.

(a) (i) What is wave front?

(ii) Why are coherent sources necessary to produce a sustained interference pattern?

(b) The focal length of an equiconcave lens is $\frac{3}{4}$ times of radius of curvature of its surfaces. Find the refractive index of the material of the lens. Under what condition will this lens behave as a converging lens? [2+3]

SECTION E

Case Study:

Read the following paragraph and answer the questions.

34. A compound microscope consists of two converging lenses. One of them, of smaller aperture and smaller focal length is called objective and the other of slightly larger aperture and slightly larger focal length is called eye-piece. Both the lenses are fitted in a tube with an arrangement to vary the distance between them. A tiny object is placed in front of the objective at a distance slightly greater than its focal length. The objective produces the image of the object which acts as an object for the eye-piece. The eye piece, in turn produces the final magnified image at least distance of distinct vision.

(a) In a compound microscope what is the image formed by the objective and the eye-piece are respectively?

(b) Does the magnifying power of a microscope depend on the colour of the light used?

(c) Draw a ray diagram showing image formation by a compound microscope considering the positions of object and image in the given paragraph above.

OR

(c) The focal length of objective and eye-piece of a compound microscope are 1.2 cm and 3.0 cm respectively. The object is placed at a distance of 1.25 cm from the objective. If the final image is formed at infinity, then what would be the magnifying power of the microscope? [1+1+2]

Case Study:

Read the following paragraph and answer the questions.

35. If you burst a helium -filled balloon, helium atoms will diffuse (spread) outward into the surrounding air. This happens because these are very few helium atoms in normal air. In more formal language, there is a helium density gradient at the balloon-air interface (the number density of helium atoms varies across the interface), the helium atoms move so as to reduce the gradient.

In same way, electrons on the n-side are close to the junction plane tend to diffuse across it and into the p-side, where there are very few free electrons. Similarly, holes on the p-side are close to the junction plane tend to diffuse across that plane and into the n-side, where there are very few holes. The motions of both the electrons and the holes contribute to diffusion current ($I_{diff.}$).
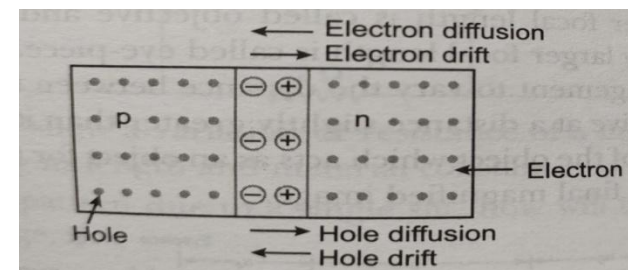
(a) Why holes diffuse from the p- region to n- region in an unbiased p-n junction?

(b) A semiconductor has an electron concentration of 6×10^{22} per m^3 and hole concentration of 8.5×10^9 per m^3. Which type of semiconductor is formed?

(c) In a pure semiconductor crystal of Si, if antimony is added then what type of extrinsic semiconductor is obtained? Draw the energy band diagram of this extrinsic semiconductor so formed.

OR

(c) What is meant by doping of an intrinsic semiconductor? Name the two types of atoms used for doping of Ge/Si. [1+1+2]

General Instructions: Read the following instructions carefully.

a) There are 35 questions in this question paper with internal choice.

b) SECTION A consists of 18 multiple-choice questions carrying 1 mark each.

c) SECTION B consists of 7 very short answer questions carrying 2 marks each.

d) SECTION C consists of 5 short answer questions carrying 3 marks each.

e) SECTION D consists of 2 case- based questions carrying 4 marks each.

f) SECTION E consists of 3 long answer questions carrying 5 marks each.

g) All questions are compulsory.

h) Use of log tables and calculators is not allowed

SECTION A

The following questions are multiple-choice questions with one correct answer. Each question carries 1 mark. There is no internal choice in this section.

1. Which of the following cannot be made by using Williamson Synthesis?

a)Methoxybenzene   b)Tert butyl methyl ether

c)Allyl methyl ether   d)Ditert- butyl ether.

2.**X** on treatment with sodium hydroxide followed by the addition of silver nitrate give light yellow precipitate at room temperature which are partially soluble in NH_4OH. **X** can be

a) Bromobenzene   b) Ethyl bromide

c) Benzyl chloride   d) Vinyl chloride

3.Potassium permanganate is used

a)as a reducing agent   b)As a corrosion inhibitor

c)As a bleaching agent in textile industry

d)In the preparation of azo compound

4.A zero order reaction is one whose rate is independent of

a)Volume of reaction vessel   b)concentration of reactants

c)temperature   d) pressure of light

5. When 0.1 mol MnO_4^{2-} is oxidized, the quantity of electricity required to completly oxidise MnO_4^{2-} to MnO_4^- will be

a)96500C   b)2×96500C   c)9650C   d) 96.50C

6.Which of the following statements is not correct about the molecularity of a reaction?

a) Molecularity of a reaction is the number of molecules in the slowest step.

b) Molecularity of a reaction can never be zero

c) There is no difference between order and molecularity of a reaction

d) Molecularity is always a positive whole number

7. Which of the following amine will form stable diazonium salt at 73-278K?

a) $C_2H_5 NH_2$ b) $C_6H_5NH_2$ c) $C_6H_5 CH_2 NH_2$ d) $C_6H_5N(CH_3)_2$

8. According to Werner's theory, the number of secondary valencies of the central metal atom corresponds to its :

a) Oxidation state   b) Coordiination number

c) Any of the two(a) or (b)   d) Neither of two

9.To prepare butan-2-ol using CH_3MgI what other chemical would you choose?

a)Propanal   b)Ethanal   c)Ethanol   d)Propan-2-ol

10.Reduction of nitrobenzene with Sn/HCl gives

a) Aniline   b) Azoxybenzene   c) p-Nitroaniline   d) Azobenzene

11.What is the product formed when cyclohexanone undergoes Clemmensens reduction?

a) Cyclohexane carboxylic acid b) Cyclohexane c) n-hexane   d) Cyclohexanol

12. The rate of reaction 2A+B → Products is expressed as Rate:=$K[A]^2[B]$. If A is present in large excess,the order of the reaction is:

a)3   b)2   c)1   d)0

13.What is not true about a ligand is :

a) A ligand can acts as lewis base

b) A ligand can be monodentate or multidentate

c) A monodentate ligand can be a chelating ligand

d) A multidentate ligand is a chelating ligand

14. Which of the following ketone will not form yellow precipitate with $I_2/NaOH$?

a) Pentan-2-one   b)Benzophenone   c) Acetone   d) Acetophenone

Select the most appropriate answer from the options given below:

Select the most appropriate answer from the options given below:

a. Both A and R are true and R is the correct explanation of A

b. Both A and R are true but R is not the correct explanation of A.

c. A is true but R is false.

d. A is false but R is true.

15. **Assertion (A):** $(CH_3)_3C-O-CH_3$ gives $(CH_3)_3C-I$ and CH_3OH treatment with HI

Reason (R): The reaction follows by S_N^1 mechanism .

16. **Assertion (A):** A unit formed by the attachment of a base to 1' position of sugar is known as nucleotide

Reason (R): When nucleoside is linked to phosphoric acid at 5' position of sugar moiety we get a nucleotide.

17. **Assertion**:Zn,Cd, and Hg of group 12 are not regarded as transition metals

Reason (R): Zn,Cd,Hg have full d^{10} configuration in their ground oxidation states as well as in their common oxidation states.

18.**Assertion (A):**Primary alkyldiazonium salts are highly unstable while arenediazonium salt are stable.

Reason (R): Benzenediazonium chloride is prepared by diazotisation.

SECTION B

This section contains 7 questions with internal choice in two questions. The following questions are very short answer type and carry 2 marks each.

19. For a reaction

$N_2 + 3H_2(g) \rightarrow 2NH_3 (g)$
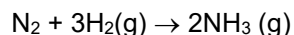
The rate of formation of NH_3 is 3.6×10^{-4} mol $L^{-1}s^{-1}$. Calculate the

i) Rate of reaction and

ii) Rate of disappearance of $H_2(g)$

20. Account for the following

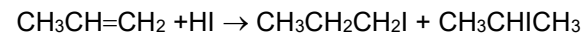Write two differences between glucose and fructose?

OR

What are the hydrolysis products of

i)Sucrose and

ii) Lactose

21. Discuss the nature of C-X bond in the haloarenes

OR

Which of the products will be major product in the reaction given below?Explain

$CH_3CH=CH_2 +HI \rightarrow CH_3CH_2CH_2I + CH_3CHICH_3$

22. i) Write down the IUPAC name of the following complex: $[Cr(NH_3)_2Cl_2(en)]Cl$

ii) Write the formula for the following complex: Pentaamminenitrito-O-cobalt(III)

23. **X** and **Y** are two electrolytes.On dilution molar conductivity of 'X' increases 2.5 times while that of 'Y' increases 25 times. Which of the two is a weak electrolyte?

24. Explain the difference between instantaneous rate of a reaction and average rate of a reaction.

25. Write the chemical equation to illustrate the following name reactions:

i) Etard reaction

ii) Rosenmund's reaction

SECTION C

This section contains 5 questions with internal choice in two questions. The following questions are short answer type and carry 3 marks each

26. Carry out the following conversions.

i) Phenol to benzoquinone.

ii) Propanone to 2- Methylpropan-2-ol.

iii) Propene to propan-2-ol.

27. Write the hybridization and magnetic character of the following complexes

i) $[NiCl_4]^{2-}$ ii) $[Co(NH_3)_6]^{3+}$.   iii) $[FeF_6]^{3-}$

28. The vapour pressure of pure liquids A and B are 450 and 700mmHg respectively at 350K. Find out the composition of the liquid mixture if total vapour pressure is 600mm Hg.

OR

State Henry's law. Calculate the solubility of CO_2 in water at 298 K under 760 mm Hg.   (K_H for CO_2 in water at 298K is 1.25×10^6 mm Hg)   1+2

29. How will you convert:

i) Benzene to aniline

ii) Aniline to Chlorobenzene.
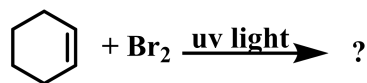
iii) Cl-$(CH_2)_4$-Cl into hexan-1,6-diamine?.

30. Write the main products when:

i) n-butyl chloride is treated with alcoholic KOH

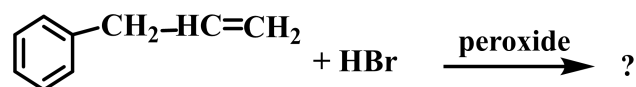ii) 2,4,6-trinitrochlorobenzene is subjected to hydrolysis

iii) Methyl chloride is heated with AgCN

OR

Write the major mono halo product(s) in each of the following reactions:

i)

ii)

iii)
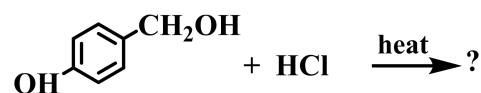
SECTION D

The following questions are case-based questions. Each question has an internal choice and carries 4 (1+1+2) marks each. Read the passage carefully and answer the questions that follow.

31. Proteins are large complex molecules that play many critical roles in our body.They do most of the work in cells and are required for the structure,function,and regulation of the body's tissues and organs.

Proteins are made up of hundred or thousands of smaller units called amino acids, which are attached to one another in long chains.There are 20 different types of amino acids that can be combined to make protein.The sequence of amino acids determines each protein unique 3-dimensional structure and its specific function.

i) Are proteins polymers ?   1

ii) What are non-essential amino acids?   1

iii) By which linkage amino acids are linked in a protein? What do you mean by primary structure of proteins?   1+1

OR

Give two example of denaturation of proteins

32.Scientists look at half life decay rates of radioactive isotopes to estimate when a particular atom might decay. A useful application of half lives is radioactive dating.

Radioactive dating is helpful for figuring out the age of ancient things.Carbon-14(C-14), a radioactive isotope of carbon is produced in the upper atmosphere by cosmic radiation. The primary carbon containing compound in the atmosphere is carbondioxide and a very small amount of carbon dioxide contains C-14.Plants absorb C-14 during photosynthesis, so C-14 is incorporated into the cellular structure of plants. Plants are then eaten by animals, making C-14 a part of the cellular structure of all living things. As long as an organism is alive , the amount of C-14 ,begins to decrease. Scientist know the half life of C-14 (5730 tears),so they can figure out how long ago the organism died.

Answer the following questions

i) Define half life period of a reaction   1

ii) For a reaction R→P, half life ($t_{1/2}$) is observed to be independent of the initial concentration of reactants. What is the order of the reaction?   1

iii) Define first order reaction. Calculate the half life of a first order reaction, if its rate constant is $200s^{-1}$.   2

OR

Which technique is helpful for figuring out the age of any archaeological artefact containing wood? Can C-14 dating be used to determine the age of a moon rock or meteorite? 2

SECTION E

The following questions are long answer type and carry 5 marks each. Two questions have an internal choice.

33. What is the relationship between Gibbs free energy of the cell reaction in a galvanic cell and the emf of the cell? When will the maximum work be obtained from a galvanic cell?

Calculate the cell potential of hydrogen electrode in contact with a solution whose pH is 10. 1+1+3

OR

Write the Nerst equation for the cell reaction in the Daniell cell. How will the E_{cell} be affected when concentration of Zn^{2+} is increased?

Calculate the emf of the following cell

$$Zn(s) \,|\, Zn^{2+}(0.01M) \,||\, (0.001M)Ag^+ \,|\, Ag(s)$$
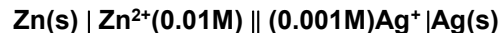
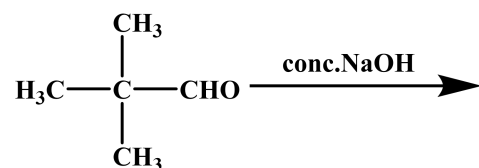Given: $E^{\circ}_{Zn^{2+}/Zn}$= -0.76V $\qquad\qquad E^{\circ}_{Ag^+/Ag}$=+0.80V .

34. Carry out the following conversions:

i) Benzoic acid to aniline

ii) Bromomethane to ethanol 2

iii) Write the structure of major product(s)in the following
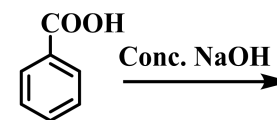
a)

$$H_3C-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}-CHO \xrightarrow{\text{conc.NaOH}}$$

b)

$$H_3C-CH_2-CHO \xrightarrow[\text{b)KOH, Glycol, heat}]{\text{a) NH}_2\text{-NH}_2}$$

c)

$$\underset{\text{COOH}}{\bigcirc} \xrightarrow{\text{Conc. NaOH}}$$
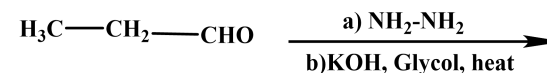
3

OR

a) Carry out the following conversions:

i) p-nitrotoluene to 2- bromobenzoic acid

ii) Formic acid to acetic acid 2

b) An alkene with molecular formula C_5H_{10} on ozonolysis gives a mixture of two compounds,B and C. Compound B gives positive Fehlings test and also reacts with iodine and NaOH solution.Compound C does not give Fehling solution test but forms iodoform.Identify the compound A,B and C 3

35. Answer the following

a)The electronic configuration of a transition element in +3 oxidation state is [Ar] $3d^7$.Find out its atomic number. 1

b)Silver atom has completely filled d orbitals ($4d^{10}$) in its ground state.How can you say that it is a transition element? 1

c) Why Mn^{2+} compounds more stable than Fe^{2+} towards oxidation to their +3 state?1

d)Transition metals acts as Catalyst. Give an example. 1

e) On what ground can you say that scandium (Z=21) is a transition element but zinc (Z=30) is not? 1

Class 12S   **BIOLOGY**   *Time* : 3 Hr   *F.M.* :70

General Instructions:

(i) All questions are compulsory.

(ii) The question paper has five sections and 33 questions. All questions are compulsory.

(iii) Section–A(1-16) has 16 questions of 1 mark each; Section–B(17-21) has 5 questions of 2 marks each; Section– C(22-28) has 7 questions of 3 marks each; Section– D(29-30) has 2 case-based questions of 4 marks each; and Section–E(31-33) has 3 questions of 5 marks each.

(iv) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.

(v) Wherever necessary, neat and properly labeled diagrams should be drawn.

1. A female undergoing IVF treatment has blocked fallopian tubes. The technique by which the embryo with more than 8 blastomeres will be transferred into the female for further development is

(a) ZIFT   (b) GIFT   (c) IUT   (d) AI

2. The mode of action of the copper ions in an IUD is to

(a) increase the movement of sperms   (b) decrease the movement of the sperms

(c) make the uterus unsuitable for implantation

(d) make the cervix hostile to the sperms

3. An infertile couple was advised to undergo In vitro fertilization by the doctor. Out of the options given below, select the correct stage for transfer to the fallopian tube for successful results?

(a) Zygote only   (b) Zygote or early embryo upto 8 blastomeres

(c) Embryos with more than 8 blastomeres   (d) Blastocyst Stage

4. Intensely lactating mothers do not generally conceive due to the:

a. Suppression of gonadotropins   b. Hyper secretion of gonadotropins

c. Suppression of gametic transport   d. Suppression of fertilisation

5. Which one of the following options gives the correct matching of a disease with causative agents and mode of infection

	Disease	Causative agents	Mode of infection
a.	Typhoid	*Salmonella typhi*	With inspired air
b.	Pneumonia	*Streptococcus pneumoniae*	Droplet infection
c.	Elephantitis	*Wuchereria bancroftii*	With infected water and food
d.	Malaria	*Plasmodium vivax*	Bite of male *Anopheles* mosquito

6. The main barrier that prevents the entry of microorganisms into our body is

(a) macrophages   (b) antibodies   (d) skin   (c) monocytes

7. The microbes commonly used in kitchens are

(a) *Lactobacilus* and Yeast   (b) *Penicillium* and Yeast

(c) *Microspora* and *E.coli*   (d) *Rhizopus* and *Lactobacillus*

8. Which one of the following is a case of wrong matching?

a.	Somatic hybridization	Fusion of two diverse cells
b.	Vector DNA	Site for tRNA synthesis
c.	Micropropagation	In vitro production of plants in large numbers
d.	Callus	Unorganised mass of cells produced in tissue culture

9. Amensalism is an association between two species where:

a. one species is harmed and other is benefitted

b. one species is harmed and other is unaffected

c. one species is benefitted and other is unaffected

d. both the species are harmed.

10. Which of the following is the most accurate comment on Earth's carrying capacity (K)?

(a) K is smaller now than it was a thousand years ago.

(b) The human population is still a long way from K.

(c) Our technology has allowed us to keep increasing K.

(d) When it comes to humans, the concept of K is irrelevant.

11. Match the following and select the correct option.

A	Earthworm	(i)	Pioneer species
B	Succession	(ii)	Detrivore
C	Ecosystem	(iii)	Natality
D	Population growth	(iv)	Pollination

	A	B	C	D
(a)	(i)	(ii)	(ii)	(iv)
(b)	(iv)	(iii)	(ii)	(i)
(c)	(iii)	(ii)	(iv)	(i)
(d)	(i)	(iii)	(iv)	(ii)

12. Evolutionary convergence is development of a

(a) common set of functions in groups of different ancestry.

(b) dissimilar set of functions in closely related groups.

(c) common set of structures in closely related groups.

(d) dissimilar set of functions in unrelated groups.

Question No. 13 to 16 consist of two statements- Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true and R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

13. Assertion (A) : Apomictic fruits are seedless.

Reason (R) Apomictic fruits are formed without fertilisation.

14. Morgan carried out several dihybrid crosses in Drosophila to study the genes that are sex linked. The figure represents two crosses conducted by him.
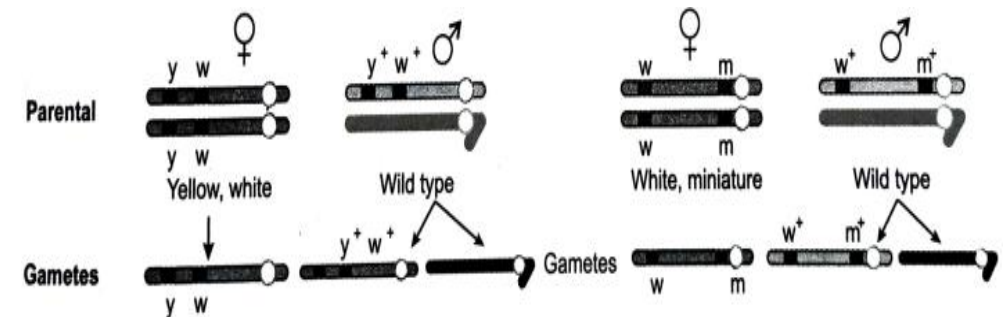
Assertion (A): When the two genes in a dihybrid cross are situated on the same

chromosome, the proportion of parental gene combinations is much higher than non-parental type.

Reason (R) Higher parental gene combinations can be attributed to crossing over between two genes.

15. Assertion (A): *Agrobacterium tumefaciens* is popular in genetic engineering because it spontaneously transfers tumour inducing gene to broad leaf dicot plants.

Reason (R): A gene incorporated in the bacterial chromosomal genome gets autonomically transferred to be crop with which the bacterium is associated.

16, Assertion (A): Ecological succession occurs when older communities of plant and animals are replaced by many new communities.
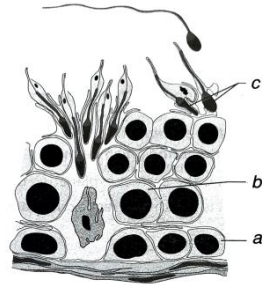
Reason (R): The natural process of replacement of one vegetation community in a given habitat by the other vegetation community.

17. Study the figure given below:

(a) What is being depicted in the diagram?

(b) Name 'a' and 'b' cells. What is the difference between them with reference to the number of chromosomes?

(c) Pick out and name the motile cells.

18. Two independent monohybrid crosses were carried out involving a tall pea plant with a dwarf pea plant. In the first cross, the offspring population had equal number of tall and dwarf plants, whereas in the second cross it was different. Work out the crosses, and explain giving reasons for the difference in the offspring populations.

19. Humans have innate immunity for protection against pathogens that may enter the gut along with food. What are the two barriers that protect the body from such pathogens

20. Explain the method to increase the competency of the bacterial cell membrane to transfer recombinant DNA?

OR

Why is tobacco smoking associated with rise in blood pressure and emphysema (oxygen deficiency in the body)? Explain.

21. As per a recent newspaper report, a particular country showed declining population growth rate. According to you, what could be the two most possible reasons for this decline and why?

22. Draw a schematic transverse section of a mature anther of an angiosperm. Label epidermis, middle layers, tapetum, endothecium. sporogenous tissue and the connective.

23. A fully developed foetus initiates its delivery from the mother's womb. Justify the statement.

24. What are the conditions in which medical termination of pregnancy is advised? Give examples.

25. (a) Why is the collection of white winged moths and dark winged moths made in England between 1850- 1920 considered a good example of natural selection?

(b) "Evolution is based on chance events in nature and chance mutations in organisms." Justify the statement.

26. How do normal cells get transformed into cancerous neoplastic cells? Elaborate giving three examples of inducing agent.

OR

Mention the chemical nature of an antibody and name the type of cells they are produced by. Write the difference between active and passive immune responses on the basis of antibodies
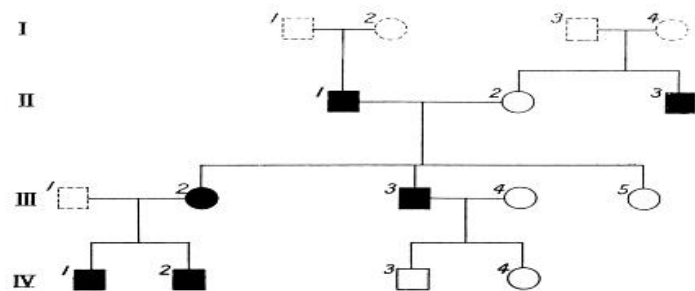
27. In a pathological lab, a series of steps were undertaken for finding the gene of interest. Describe the steps, or make a flow chart showing the process of amplification of this gene of interest.

28. (a) The image shown below is of a sacred grove found in India. Explain how human involvement has helped in the preservation of these biodiversity rich regions.

(b) Value of Z (regression coefficient) is considered for measuring the species richness of an area. If the value of Z is 0.7 for area A, and 0.15 for area B, which area has higher species richness and a steeper slope?

29. Study the Pedigree chart given below and answer the questions that follow:

Symbols used in the given Pedigree Chart are as follows:

Carrier male, ■ - Affected male, □ - Normal male

Carrier female, ● - Affected Female, ○ - Normal female

(a) On the basis of the inheritance pattern exhibited in this pedigree chart, what conclusion can you draw about the pattern of inheritance?

(b) If the female is homozygous for the affected trait in this pedigree chart, then what percentage of her sons will be affected ?

(c) Give the genotype of offsprings 1,2,3 and 4 in III generation.

OR

(c) In this type of inheritance pattern, out of male and female children which one has less probability of receiving the trait from the parents. Give a reason.

30. Evaluate the suitability of DNA and RNA as genetic material and justify the suitability of the one that is preferred as an ideal genetic material.
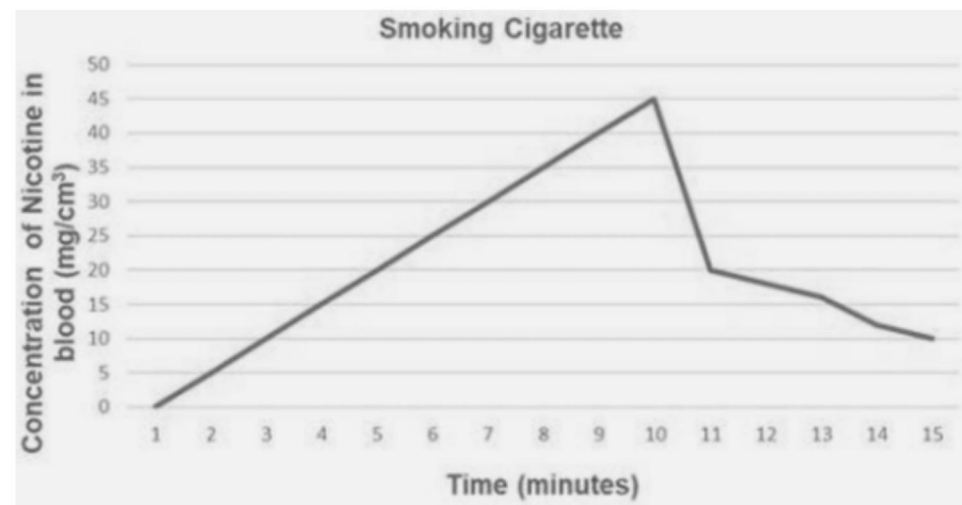
OR

(a) List any four major goals of Human Genome project (HGP).

(b) Write any four ways the knowledge from HGP is of significance for humans.

(c) Expand BAC and mention its importance.

31. The data below shows the concentration of nicotine smoked by a smoker taking 10puffs/ minute.

(a) With reference to the above graph explain the concentration of nicotine in blood at 10 minutes.

(b) How will this affect the concentration of carbon monoxide and haembound oxygen at 10 minutes?

(c) How does cigarette smoking result in high blood pressure and increase in heart rate?

OR

(c) How does cigarette smoking result in lung cancer and emphysema?

32. Sickle cell anemia is a genetic disorder where the body produces abnormal haemoglobin called hemoglobin S. Red blood cells are normally flexible and round, but when the hemoglobin is defective, blood cells take on a "sickle" or crescent shape. Sickle cell anemia is caused by mutations in a gene called HBB.

It is an inherited blood disorder that occurs if both the maternal and paternal copies of the HBB gene are defective. In other words, if an individual receives just one copy of the defective HBB gene, either from mother or father, then the individual has no sickle cell anemia but has what is called "sickle cell trait". People with sickle cell trait usually do not have any symptoms or problems but they can pass the mutated gene onto their children.

There are three inheritance scenarios that can lead to a child having sickle cell anemia:

- Both parents have sickle cell trait

- One parent has sickle cell anemia and the other has sickle cell trait

– Both parents have sickle cell anemia

(a) If both parents have sickle cell trait, then there is _____ of the child having sickle cell anemia.

(b) If one parent have sickle cell trait, then there is _____ of the child having sickle cell trait.

(c)
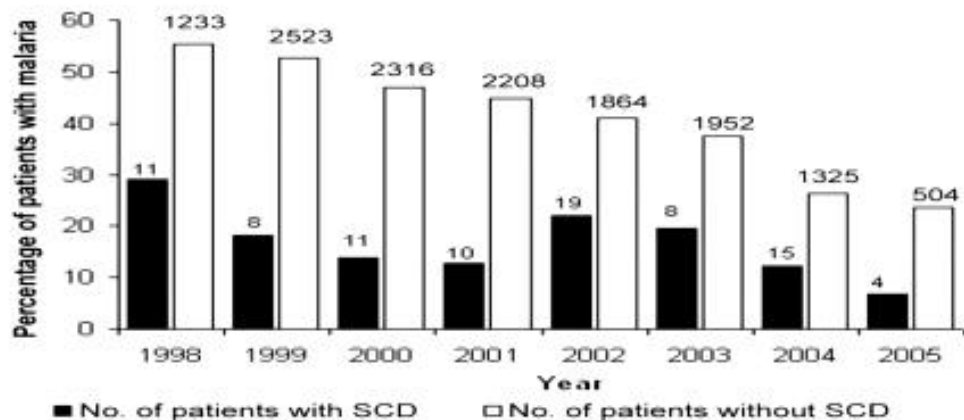
From the above graph showing patients with malaria and SCID in Kenya, what correlation can you draw out of this?

(d) What kind of inherited disease is sickle cell anaemia.

33. Oil spill is a major environmental issue. It has been found that different strains of *Pseudomonas* bacteria have genes to break down the four major groups of hydrocarbons in oil. Trials are underway to use different biotechnological tools to incorporate these genes and create a genetically engineered strain of *Pseudomonas* - a 'super-bug', to break down the four major groups of hydrocarbons in oil. Such bacteria might be sprayed onto surfaces polluted with oil to clean thin films of oil.

(a) List two advantages of using bacteria for such biotechnological studies?

(b) For amplification of the gene of interest PCR was carried out. The PCR was run with the help of polymerase which was functional only at a very low temperature. How will this impact the efficiency of the PCR? Justify.

(c) If such bacteria are sprayed on water bodies with oil spills, how will this have a positive or negative effect on the environment? Discuss.

OR

Insects in the Lepidopteran group lay eggs on maize crops. The larvae on hatching feed on maize leaf and tender cob. In order to arrest the spread of three such Lepidopteran pests, Bt maize crops were introduced in an experimental field. A study was carried out to see which of the three species of lepidopteran pests was most susceptible to Bt genes and its product. The lepidopteran pests were allowed to feed on the same Bt-maize crops grown on 5 fields (A-E).

The graph below shows the leaf area damaged by these three pests after feeding on maize leaves for five days.
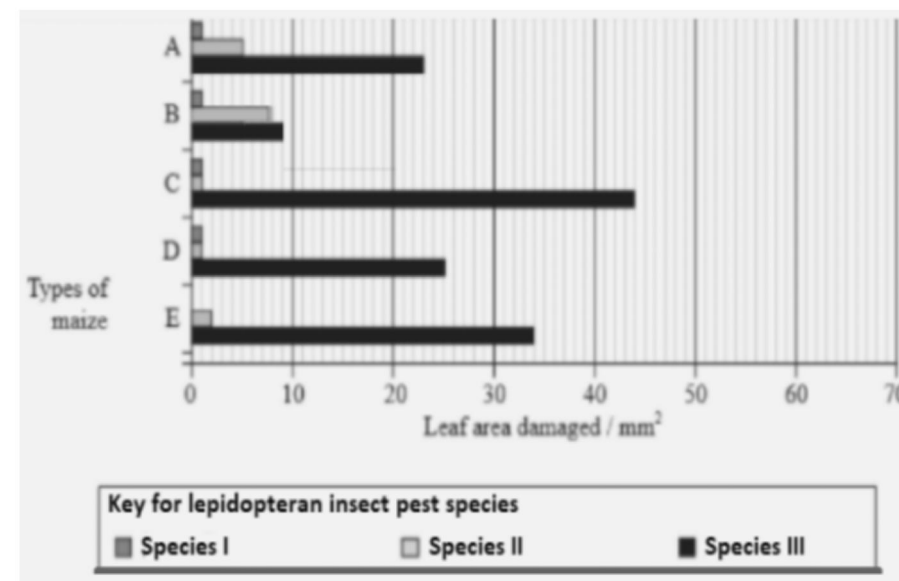
Insect gut pH was recorded as 10, 8 and 6 respectively for Species I, II and III respectively.

(a) Evaluate the efficacy of the Bt crop on the feeding habits of the three species of stem borer and suggest which species is least susceptible to Bt toxin.

(b) Which species is most susceptible to Bt-maize, explain why?

(c) Using the given information, suggest why similar effect was not seen in the three insect species?

Modi Public School, Siliguri
Preparatory Examination I (2022-23)

Class 12   **Physical Education (048)**   *Time* :3 hr   *F.M.* :70

General Instructions:

[1] 15 minute prior reading time allotted for Q-paper reading.

[2] The question paper consists of 5 sections and 37 Questions.

[3] Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.

[4] Sections B consist of questions 19-24 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. Attempt any 5.

[5] Sections C consist of Question 25-30 carrying 3 marks each and are short answer types and should not exceed 100-150 words. Attempt any 5.

[6] Sections D consist of Question 31-33 carrying 4 marks each and are case studies.

[7] Section E consists of Question 34-37 carrying 5 marks each and are short answer types and should not exceed 200-300 words. Attempt any 3.

(SECTION –A)   (1x18)

[Q.1] A person is considered underweight, if his BMI is in the range of

a] 18.5-24.9   b] less than 18.5   c] 25-29.9   d] more than 30

[Q.2] Which of the following statements correctly describes Staffing?

a] It means getting ready to perform a task.

b] It means describing the duties to the concerned staff.

c] It means to map out everything required to organise a Sports Event.

d] It means the required manpower at every Post to complete the task.

[Q.3] The Symptoms of Amenorrhea is absence of menses for

a] 24 days   b) 1 month   c) 3 months   d) after attaining the age of 40-45 yrs.

[Q.4] In female, the correct cause of osteoporosis is

a) Menarche   b) High Blood pressure

c) Lack of calcium and vitamin D   d) Excessive exercise

[Q.5] Who will be the host of 2024 Summer Olympic Games?

 a] Victoria, Australia b) Los angeles,USA c) Paris,France d) Tokyo,Japan

[Q.6] The symbols of Paralympic Games is Comprised of

a) Three agitos   b) Three fingers   c) Four hands   d)Five Fingers.

[Q.7] Identify the Asana:

 a] Paschimottanasana

 b) Halasana

 c)Katichakrasana

 d)Amuloma-Viloma

[Q.8] Which of the following falls in the Category of macronutrients?

a) Carbohydrates, fats and Proteins

b) Vitamins, minerals, water and Dietary fibre

c) Carbohydrates, Vitamins and minerals

d) Fats, minerals, roughage

[Q.9] Which disease is caused due to the deficiency of Vitamin D

a) Scurvy   b) Beri-Beri   c) Ricket   d) Night blindness

[Q.10] Which of the following is assessed by Conducting Flamingo test on students?

a) Ability to stand erect   b) Static Balance   c) Endurance   d) Dynamic Balance

Q.11] This is the amount of blood pumped out by each Ventricle per minute.

a) Stroke volume   b) Cardiac output   c) Pulse rate   d) Heart rate

Q.12] Which of the following factors affects Projectile trajectory?

a) Initial velocity   b) Angle of Projectile   c) Spin   d) All of these.

[Q.13] Match of the following:

I. Laceration	1. joint
II. Sprain	2. skin
III. Dislocation	3. Ligament
IV. Strain	4. Muscle

a) I-2,II-1,III-3,IV-4   b) I-2,II-3, III-1,IV-4

c) I-1,II-2, III-3,IV-4   d) I-4,II-2,III-3,IV-1

[Q.14] Match list I WITH LIST II and Select the correct answer

I) Obesity	1. Amuloma-viloma
II) Diabetes	2. Shavasana
III) Asthma	3. Yogmudra
IV) Hypertension	4. Katichakrasana

a) I-4, II-3, III-1, IV-2   b) I-4, II-3, III-2, IV-1

c) I-3, II-4, III-1, IV-2   d) I-3, II-2, III-1, IV-4

[Q.15] Given below are the two statements labelled Assertion (A) and Reason (R).

Assertion: Extrovert type of people love to socialise.

Reason: Extrovert people are open-minded, friendly and approachable.

In the context of the above two statements, which one of the following is Correct?

a) Both A and R are true and R is the correct explanation of A

b) Both A and R are true but R is not the correct explanation of A

c) A is true, but R is false

d) A is false but R is true.

[Q.16] If a muscle contracts and doesn't changes its length to produce force, the Contraction type is

a) Isotonic   b) Isometric   c) Isokinetic   d) None of these.

[Q.17] Which of the following is not a type of coordinative ability?

a) Coupling ability   b) Reaction ability

c) Orientation ability   d) Understanding ability

Q.18 Greenstick fracture takes place in

a] Women   b) Adults   c) Children   d) Senior citizens

(SECTION-B)

[Q.19] List down any four disadvantage of having too much Self esteem and too little Self esteem.   (0.5x4)

[Q.20] List down any two advantages & two disadvantages of Interval Training.
                                                                               (0.5x4)

[Q.21] What is the Centre of Gravity? Explain any two applications of it in Sports.
                                                                            (1+1=2)

[Q.22] List down any four effects of exercise on the muscular System.   (0.5x4)

[Q.23] Write down the Objectives for Flamingo Test & Plate Tapping test   (1+1=2)

[Q.24] What is Basal Metabolic Rate (BMR) and Write down the formula of BMR for Men.   (1+1=2)

(SECTION-C)

[Q.25] Create a mind map including any Six Strategies to make Physical activities accessible for Children with Special needs.   (0.5x6=3)

[Q.26] Why should we include more Carbohydrates in our diet as compared to fats? List the main functions of fats.   (1+2=3)

[Q.27] Define Seeding. Draw a fixture of 7teams on league basis following the cyclic method.   (1+2=3)

[Q.28] Make a table explaining Jung and Herbert Sheldon classification of Personality.   (0.5x6=3)

[Q.29] Explain 'PRICE' procedure as a treatment of Soft Tissue Injuries.   3

[Q.30] Explain any three Physiological factors Determining Flexibility.   ((1+1+1)

(SECTION-D)

[Q.31] Mr. Raghav, aged 45years was advised by his doctor to exercise regularly and take care of his dietary habbits. This advice was given keeping in view his advancing age and sedentary working profile.   (1x4=4)

Considering his lifestyle answer the following questions

1. The most commonly seen change in the cardiovascular system due to regular exercise is

(a) ↑BP   (b) ↓Pulse rate   (c) Both a & b   (d) No change

2. Due to regular exercising, the viscosity of the blood_____

(a) Increases   (b) Decreases   (c) Remains same   (d) Both a & b

3. The changes in the chemical composition of blood due to exercises are

(a) R B C increases   (b) Plasma Increases

(c) Platelets increases   (d) All of the above

4. This refers to highest rate at which oxygen can be taken up and consumed by body during intense exercise

(a) VO_2 max   (b) HbO_2 max   (c) HgO_2 max   (d) O_2 max

Q.32 Competing in physical activities has been the natural tendency of humans. The competitions   (1x4=4)

Or tournaments are held according to the set rules and regulations.The success of the tournament depends upon suitable fixture. Observe the be given fixture and answer the questions.
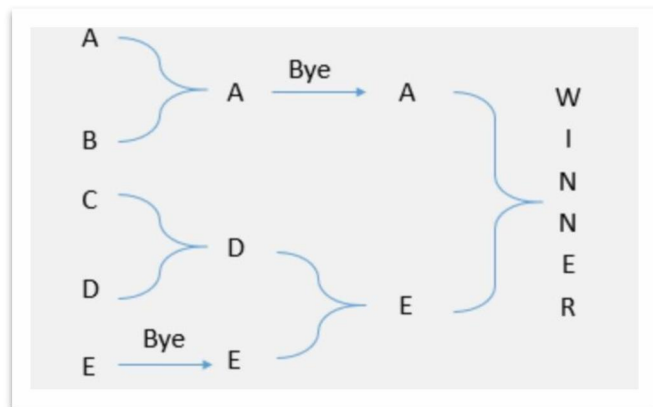
1]. The method followed in drawing the fixture is _____

      (a) League   (b) knockout   (c) Ladder   (d) combination

2]. Number of matches played can be calculated by the formula _____

      (a) N   (b) N-1   (c) N+1   (d) N+2

3]. The advantage of this tournament is _____

(a) Economical   (b) Less time   (c) both (a)and (b) (d) none of the above

4]. In this type of tournament, a team once defeated gets

(a) eliminated   (b) bye   (c) another chance   (d) wild card entry

[Q.33] Raju, Sheela and Mili visited their newly made friends living in a centre for children with special needs. On the day before visiting the centre, they held a meeting with their school Physical Education teacher and learnt many guidelines to deal with their special friends at the centre. They were very much excited to meet them knowing how happy their friends would be.

                                              [1x4=4]

1. The set of guidelines these children learnt can be termed as _____

(a) Disability rules (b) disability etiquette (c) disability regulations (d) Disability law

2. In case of introduction, it is appropriate to _____

(a) Shake hands   (b) bow down   (c) high five   (d) wave

3. To deal with children with special needs, one should have

(a) courage   (b) fear   (c) patience   (d) doubt

4. While conversing with such individuals, always use---

(a) Normal tone   (b) high pitch   (c) whisper   (d) enact

(SECTION-E)

[Q.34] List down any four asanas used for Prevention of Obesity. Explain the Procedure for administration of any one of them with the help of a Stick diagram.

                                         (2+2+1=5)

[Q.35] Make a table of test items listed under fitness test by SAI (Age group 9-18 Yrs) along with the objectives of conducting them. Explain the administration of any one of them.   (4+1=5)

[Q.36] Define Speed, types of Speed and Elucidate the two methods of developing Speed.   (1+2+2=5)

[Q.37] Describe Newton's Laws of motion with any Suitable examples of each law in Sports.   5

Modi Public School, Siliguri

Preparatory Examination 1 – 2022-23

Class 12   **Business Studies**   *Time* :3 Hr   *F.M.* :**80**

General instructions:

1] This question paper contains 34 questions.
2] Marks are indicated against each question.
3] Answers should be brief and to the point.
4] Answers to the questions carrying 3 marks may be from 50 to 75 words. 5] Answers to the questions carrying 4 marks may be about 150 words.
6] Answers to the questions carrying 6 marks may be about 200 words.
7] Attempt all parts of the questions together.

1] "The purpose of management is to accomplish organisational goals by providing quality services to the society." What nature of management is highlighted in this statement?   [1]

a) Restricted entry   b) Professional association

c) Systematic body of knowledge   d) Service motive

2] Which of the following are External factors in the Business Environment of an organisation: –   [1]

a) Employees,   b) Labour unions

c) Value systems   d) None of the above

3] "Grouping of jobs of similar nature under functional and organising these major functions as separate departments."Which organizational structure is highlighted in this line?   [1]

a) Functional structure   b) Divisional structure

c) Both a and b   d) None of these

4] Which principle of general management advocates that, "Employee turnover should be minimised to maintain organisational efficiency."?   [1]

(a) Stability of personnel   (b) Remuneration of employees

(c) Equity   (d) Esprit De Corps

5] The term 'market' may be understood in which of the following contexts?   [1]

(a) Geographical area covered   (b) Type of buyers

(c) Quantity of goods transacted   (d) All of the above

6] Which of the following is not a feature of Coordination? [1]

a) Coordination is a function of management

b) Coordination is a pervasive function

c) Coordination integrates group efforts

d) Coordination is the responsibility of all the managers

7] Which of the following cannot be delegated? [1]

(a) Responsibility and accountability   (b) Authority and responsibility

(c) Accountability and authority   (d) All of the above

8] Which of the following statements is not true with regard to Call money? [1]

(a) It is short-term finance repayable on demand.

(b) Its maturity period ranges from one day to fifteen days.

(c) There is a direct relationship between call rates and other short-term money market instruments.

(d) It is used for inter-bank transactions.

9] Assertion (A) - Management cannot be called an exact science. [1]

Reason(R) - Management deals with complex human behaviour, which cannot be determined with accuracy.

(a) Both A and R is correct

(b) A is correct R is incorrect

(c) Both A and R is correct and R is the correct explanation of A

(d) Both A and R is correct and R is not the correct explanation of A

10] Delegation helps a manager to [1]

a) Extend his area of operations   b) use his time on high priority activities

c) Both a and b   d) None of these

11] 'Mom's Secret Chef' has reduced the sugar and fat levels of its goods in response to changing customer needs and tastes. This commercial enterprise strategy suggests that management is- [1]

(a) An intangible force   (b) A group activity

(c) A dynamic function   (d) A multidimensional activity

12] Raj Enterprises wishes to invest ₹1,10,000 in treasury bills. What is the maximum number of treasury bills it can buy with this fund? [1]

(a) 6   (b) 7   (c) 4   (d) 2

13] 'Yo China' started its business by offering the exemplary combo of noodles and Manchurian. In any case, over the long run, their clients needed better food service, so 'Yo China' reacted and started offering sound choices like plates of mixed greens, natural products, wraps and oats. In the event that 'Yo China' hadn't reacted, they might have lost clients that needed to eat better food varieties. The above case features one of the focuses identified with the significance of the business climate and its comprehension by chefs. Identify it. [1]

(a) It enables in managing speedy changes.

(b) It enhances performance.

(c) It allows the organization to pick out threats and early caution signals.

(d) It allows the organization to discover possibilities and get the primary mover advantage.

14] The exchange will deliver the stock or make payment to the other broker on this day- [1]

(a) Transaction day   (b) Same day immediately

(c) Pay-in day   (d) Pay-out day

15] According to a report by the India Staffing Federation (ISF), India has emerged as the fifth largest market worldwide in flexi-staffing in 2018 and the country would have 6.1 million flexi-workforces by 2021. It showed that Haryana, Gujarat, Karnataka, Madhya Pradesh and Telangana are the states with high growth potential for flexi- staffing but Andhra Pradesh tops the list of states with favourable business environment. Identify the feature of business environment being discussed above.[1]

(a) Relativity   (b) Dynamic nature

(c) Uncertainty   (d) Interrelatedness

16] The stock exchange assigns a number to each transaction, which is printed on the contract note. It is called- [1]

(a) PAN Number   (b) Unique order code

(c) Contract note   (d) None of the above

17] _____ is the deliberate action of an organisation for promoting goodwill between itself and the society. [1]

(a) Marketing mix   (b) Advertising   (c) Public relations   (d) Selling

18] Karam Limited is offering a travel package for 15 destinations worldwide with a free insurance on the bookings for the month of December, 2019. Identify the feature of marketing being described in the above lines. [1]

(a) Needs and wants   (b) Creating a market offering

(c) Customer value   (d) Exchange mechanism

19] PK Enterprises Limited has sold an entire lot of 5,00,000 equity shares @ ₹9 each to Prosperous Bank Private Limited. The bank in turn will offer the shares to general public for subscription @ ₹11 per share. Identify the method of floatation being described in the given lines. [1]

(a) Private placement   (b) Offer through prospectus

(c) Offer for sale   (d) Rights issue

20] Under which of the following situations is a company not likely to fix a lower price for its product? [1]

(a) When the competition has introduced a substitute product

(b) If the demand for a product is inelastic

(c) When the company wants to attain market share leadership

(d) When the demand for the product is low

21] Mrs Neeraj Dhariwal, the Managing Director of 'Parshu Foods Limited' hold a meeting with the Sales Manager in order to fix the target of sales for the following year. For this purpose she studied the sales trend of the previous five years. She came to know that the company's sales were increasing at the rate of 30% every year. For this she did the market survey also. From this she learnt that the biggest competing company which was running in loss, was planning to leave this business and enter some other business. Taking it for granted that the company would definitely enter some other business, Mrs Dhariwal doubled the target from the previous year. All the Departmental Managers were directed to make their respective preparations to achieve this target. The sales manager kept a close watch over the sales rate of his company and the activities of the competing company. After some time, he felt that the competing company was not leaving its current business, but was planning for improvement in it. The Managing Director called an urgent meeting of all the Departmental Managers so as to make changes in his plans Identify the different stages of planning process described in the paragraph given above.

Quote the relevant lines to do so. [3]

22] Business of "Prince Global Reach Ltd is spread across many countries. Company received the following information about human resource from two of these countries. In the first country, business of the company is far less than expected. That is why the number of employees there is much more than is necessary. But the company has also learnt that the state of slowdown in business will stay for a short period only. In the second country, in some departments of the company number of employees is more than required whereas in some other departments the same posts are lying vacant. Advise the H.R. Manager of the company as to what method of recruitment he should follow in both the countries and why? [3]

23] Vivek runs a furniture shop in Delhi under the name 'Angel Creations'. He has received an order from an upcoming school for supplying 3000 desks within ten days. He employs thirty carpenters on the site assuming that an average carpenter will be able to make 10 desks in a day. At the end of the first day of their work Vivek finds that carpenter A and carpenter B have made 6 and 7 desks, respectively Whereas, all the other workers have met their daily output targets. On introspecting he realizes that both these carpenters are not well versed with the nature of work. In context of the above case: [3]

(a) Identify and explain the function of management being discussed above.

(b) State the steps involved in the process of function of management as identified in part (a) of the question by quoting lines from the paragraph.

(c) Suggest a suitable remedy for improving the performance of carpenter A and carpenter B.

OR

Jasraj is working as a production manager in a textile mill. Over the years he has learned to follow two principles of control. Firstly, it is neither economical nor easy to keep a check on each and every activity in the factory. Secondly, an attempt to control everything results in controlling nothing. Explain the concepts underlying these principles with the help of suitable examples. [3]

24] The stock market regulator, Securities and Exchange Board of India (SEBI), has initiated certification programme for all market intermediaries. Under this programme,

people associated with stock markets in any way, will have to obtain a qualifying certificate from the regulator. The National Institute of Securities Market (NISM), a trust formed by SEBI, is tasked with the certification programme.

In context of the above case:

(a) Identify the type of function performed by SEBI.

(b) Outline any two reasons for setting up SEBI. [3]

25] Race Tech Ltd. is one of the top IT companies in India. The company does mass recruitment each year from different colleges offering fresher level job to the final year students. This helps in recruiting the brightest and the best available talent in the educational institutions. In context of the above case: [4]

(a) Identify the source of external recruitment adopted by the company.

(b) Explain briefly any three advantages of using the external sources of recruitment.

OR

Neeraj has been working as a sewing machine operator in an export house for the past ten years. His basic work is to seam the parts of a garment together, and attach buttons, hooks, zippers, and accessories to produce clothing. Considering the fact that Neeraj is an experienced operator, he is well versed with the fundamentals of industrial production and possesses good communication skills. The plant superintendent in the factory recommends Neeraj's name to the production manager for the post of supervisor which will fall vacant after a month on the retirement of the present supervisor. Consequently, Neeraj is assigned the post of supervisor and his salary is increased accordingly. Moreover, as per the policy of the export house, he is offered free medical aid and education to his two children. In context of the above case:

(a) Identify the type of source of recruitment used by the export house to fill up the post of supervisor. Give any two advantages of using this source.

(b) Identify the types of financial incentives offered to Neeraj by quoting lines from the paragraph. [4]

26] Roshan is the chief chef of 'Khidmat' restaurant located in the city of Bengaluru. The place is known for its exquisite Mughlai cuisine especially mutton biryani and kababs. All the food is prepared under Roshan's purview. The various activities in the kitchen are initiated in accordance to his instructions. He is very clear and specific in issuing instructions to his subordinates in order to ensure smooth working of the department. He personally oversees the method followed by the chefs for preparation of each dish. He misses no opportunity to praise his subordinates for their good work. All his team members feel very happy and satisfied under his direction. He provides constant guidance to them in order to improve upon its taste and presentation and also encourages them to innovate and be more creative in their work. In the above context: [4]

(a) Identify the various elements of directing mentioned in the above paragraph by quoting lines from the paragraph.

(b) Describe briefly any two points to highlight the importance of directing as a function of management.

27] Geetika booked two coach seats online through the website of a transportation company from Delhi to Nanital. As per schedule its departure time was 9.30am. The description on the website stated that the coach would have full on-board services hosted by a steward with individual LCD screen preloaded with movies. One day before the trip, she was informed the departure time would be delayed by two hours as the bus had broke down. When Geetika finally boarded the coach, she was told that it was free seating despite having booked the seats online. She eventually had to sit in a seat that was dirty. She later realised that the LCD monitor screen at her seat was not working. Furthermore, there was no Wi-fi service as promised on board. After the trip, Geetika provided her feedback to the company and requested for a refund for the unsatisfactory services rendered. Since the company refused to offer any relief, she has decided to file a case as it is an unfair practice for a business to make misleading or false claims in relation to a consumer transaction.

In context of the above case [4]

(a) Identify the responsibility of a consumer being fulfilled by Geetika.

(b) According to you at which level of redressal machinery should Geetika file a case?

(c) Suggest any two reliefs that the court may provide to Geetika in case it is convinced about the genuineness of the complaint.

28] Madhur Milan' is a popular online matrimonial portal. It seeks to provide personalized match making service. The company has 80 offices in India, and is now

planning to open offices in Singapore, Dubai and Canada to cater to its customers beyond the country. The company has decided to opt for the sources of equity capital to raise the required amount of capital

In context of the above case:

(a) Identify and explain the type of risk which with the higher use of debt.

(b) Explain briefly any four factors because of which you think the company has decided to opt for equity capital. [4]

29] Pratap Singh is the Chief Executive Officer of Nissar Enterprises. It is an automobile part manufacturing company. The enterprise has a functional structure, in which jobs of similar nature have been grouped together as Production, Finance, Marketing and Human Resource Nissar Enterprises has its manufacturing unit at Manesar. The factory has been plagued with many problems for a long time which was in the knowledge of the Production Manager, Varun Sharma. The workers had internal differences. Time and again, there were misunderstandings between the management and the workers. Keeping the problems in mind, Varun Sharma appointed. Siyaram Singh who had 14 years of experience of working with the actual work force and passing on instructions of the middle management to the workers. Siyaram Singh met Varun Sharma to understand what the management wanted? Thereafter he met the workers and conveyed the ideas of management to them. He also promised the workers to convey their problems to the management. In this way, he cleared the misunderstanding between the management and the workers. He also sorted out internal differences and was able to unite the workers within a month of his joining. His work was acknowledged by management and he was given a certificate of good performance along with 10% increase in salary.

(a) Siyaram Singh performed some of the functions which are required to be performed at the position he is working at. State any three other functions Siyaram Singh is expected to perform.

(b) Name the incentives provided to Siyaram Singh. [4]

30] Sameeksha is working as a human resource manager in a call centre. Every time the company decides to hire call centre representatives, she ensures that the candidates selected are extrovert and well-versed in English language. On joining, the new employees are trained in the relevant business process, telephone conversation etiquettes as well as dictation adaptation before they actually start their work. State any four benefits of providing training to the new employees. [4]

OR

Piyush has recently hired Ayush as his coordinator. Every morning when Piyush gives instructions for the day to Ayush, he notices that most of the times Ayush seems to be inattentive. As a result, Ayush is unable to perform the work delegated to him. In context of the above case:

(a) Identify the type of barrier which is adversely affecting the communication between Piyush and Ayush. Also, state its category.

(b) Describe briefly one more barrier of the same category as identified in part (a) of the question. [4]

31] Hritik is desirous of setting up a small factory to manufacture different kinds of eco-friendly packaging materials. He proposes to adopt a logical approach to his business rather than hit and trial method as he knows that this can result in tremendous saving of human energy as well as wastage of time and materials. He plans to adopt paternalistic style of management in practice in order to avoid any kind of class-conflict that may emerge between him and the workers. Moreover, he plans to seek the opinion of his workers before taking any important decisions and also offers incentives to them for providing valuable suggestions for the business.

In context of the above case:

(a) Identify and explain the various principle of scientific management that Hritik plans to apply in his business. [6]

OR

Identify and explain the principles of management being violated in each of the following cases:

(a) Sita and Siddarth are working as data entry operator in a company. Despite having the same qualification and experience, they get a remuneration of ₹ 6,000 and ₹ 8,000 respectively.

(b) The management of a real estate company promised to pay its construction workers at a higher rate for the amount of overtime invested by them in order to ensure timely completion of a project. However, the workers were eventually paid wages at a normal rate.

(c) Mr. Ajay Prakash is working as an Audit Head in a power sector company. He is on a holiday with his family in Udaipur. He has been asked to reportback to his office keeping in view a surprise audit announced by the government in all power sector companies.

(d) Rajveer works as a salesman in a company. The marketing manager has allowed him to give a discount of 15% to a buyer in order to clinch a deal. Whereas, the finance manager tells him not to extend the discount beyond 7% as it may affect the profits of the company. [6]

32] Arun is a successful businessman in the paper industry. During his recent visit to his friend, place in Mysore, he was fascinated by the exclusive variety of incense sticks available there. His friend tells him that Mysore region is known as a pioneer in the activity of Agarbatti manufacturing because it has a natural reserve of forest products especially Sandalwood to provide for the base material used in production. Moreover, the suppliers of other types of raw material needed for production follow a liberal credit policy and the time required to manufacture incense sticks is relatively less. Considering the various factors, Arun decides to venture into this line of business by setting up a manufacturing unit in Mysore. In context of the above case,

(a) Identify and explain the type of financial decision taken by Arun.

(b) Identify the three factors mentioned in the paragraph which are likely to affect the working capital requirements of his business. [6]

33] Suhasini a home science graduate from a reputed college has recently done a cookery course. She wished to start her own venture with a goal to provide healing food at reasonable price. She discussed her idea with her teacher (mentor) who encouraged her. After analyzing the various options for starting her business venture, they shortlisted the option to sell readymade and ready to make vegetable shakes and sattu milk shakes. Then, they both weighed the pros and cons of both the shortlisted options. [6]

(a) Name the function of management being discussed above and give any one of its characteristics.

(b) Also briefly discuss any three limitations of the function discussed in the case.

OR

Agile Ltd. is a well-known automobile manufacturing company in India. The company plans to increase the sale of its sedan cars by 20% in the next quarter. In order to achieve the desired target, the marketing team of the company considers the impact of policy of the government towards diesel vehicles and the level of competition in this segment of cars. They explore the various available options like offering more discounts to dealers and customers, providing more customer friendly finance options, lucky draws on test drive, increasing advertising, offering more of free accessories on the purchase of the car, etc. A thorough analysis of the various available options is done keeping in view the relative viability of each option. The company decides to pursue the option of offering more discounts to dealers and customers in order to boost the sale of sedan cars. In order to implement the plan, they determine the various discount packages and communicate the same to their product dealers. To make the prospective consumers aware about the new available benefits, advertisements are made through various sources of print and electronic media. The market analysts of the company keep a close watch on the revenue from the sedan cars to study the effect of new initiatives by the company to promote its sales. In context of the above case:

(a) Name the function of management described in the above paragraph.

(b) Identify and explain the various steps involved in process the function of management as identified in part (a) by quoting lines from the paragraph. [6]

34] Arun wants to open a confectionary shop in the local market. Besides other bakery items, he is also planning to offer a special range of products with low sugar content taking into account the growing awareness about health among the people. He is also planning to hire four salesmen to initially promote his business through door to door selling in the nearby colonies. He also intends to adopt a catchy brand name for his products and advertise for them in the local newspaper and by distributing pamphlets. In context of the above case:

(a) Describe briefly any two factors that he should consider while deciding the price of his products.

(b) Name the two elements of promotion that Arun intends to use for his business (c) Suggest any benefits that he will enjoy because of using a brand name. [6]

Preparatory Examination 1 – 2022-23

Class 12   **Accountancy**   *Time* :3 Hr   *F.M.* :**80**

General Instructions:

1] This question paper contains 34 questions. All questions are compulsory.

2] This question paper is divided into two parts, Part A and B.

3] Part - A is compulsory for all candidates.

4] Part - B has two options i.e. (i) Analysis of Financial Statements and (ii) Computerised Accounting. Students must attempt only one of the given options.

5] Question 1 to 16 and 27 to 30 carries 1 mark each.

6] Questions 17 to 20, 31and 32 carries 3 marks each.

7] Questions from 21 ,22 and 33 carries 4 marks each

8] Questions from 23 to 26 and 34 carries 6 marks each

9] There is no overall choice. However, an internal choice has been provided in 7 questions of one mark, 2 questions of three marks, 1 question of four marks and 2 questions of six marks.

PART A (Accounting for Partnership Firms and Companies)

1] Firm earned profit of ₹1,00,000, out of which 20% or ₹15,000 whichever is lesser will be transferred to general reserve. [1]

a) Profit and Loss A/c   Dr   15,000

       To General Reserve A/c   15,000

(b) Profit and Loss Appropriation A/c   15,000

       To General Reserve   15,000

(c) Profit and Loss A/c   Dr.   1,00,000

       To Profit and Loss Appropriation A/c   85,000

       To General Reserve A/c   15,000

(d) Profit and Loss Appropriation A/c   20,000

       To General Reserve   20,000

2] 2,000 shares of ₹10 each on which ₹7 have been called and ₹5 has been paid are forfeited out of these 1,500 shares is reissued for ₹9 as fully paid. What is the amount to be debited to share forfeiture account at the time of reissue of shares? [1]

(a) ₹13,500   (b) ₹1500   (c) ₹15,000   (d) ₹14,000

3] Moin and Azam are partners in a firm with capital ₹20,000 and ₹40,000. Profit for FY 2021 are ₹60,000. Who will get how much share? [1]

(a) Moin ₹20,000. Azam ₹30,000   (b) Main ₹20,000, Azam ₹40.000

(c) Moin ₹30.000. Azam ₹40.000   (d) None of these

OR

P, Q, R are partner's with ₹1,00,000, ₹2,00,000, ₹3,00,000 capital respectively. Profits are to be divided equally. Interest on capital to be provided @10% p.a. Net Loss is ₹6,000. What is P's share of Interest on capital? [1]

(a) ₹3,000   (b) ₹2.000   (c) ₹1,000   (d) Nil

4] Investment fluctuation reserve is a reserve created out of profits to meet the...... in the ....value of investments. [1]

(a) rise: book   (b) fall: book

(c) rise: market   (d) fall: market

5] Vikas and Vivek were partners in a firm sharing profits in the ratio of 3:2. On Ist April, 2019 they admitted Vandana as a new partner for 1/8th share in the profits with a guaranteed profit of ₹1.50,000. The new profit sharing ratio between Vivek and Vikas will remain the same but they decided to bear any deficiency on account of guarantee to Vandana in the ratio 2:3. The profit of the firm for the year ended 31st March, 2020 was ₹9,00,000. Profit transferred to Vivek's Capital A/c will be [1]

(a) 4,50,000   (b) 3,00,000   (c) 2,92,500   (d) 1,20,000

OR

Rishu is a partner in firm where he draws a fixed amount at the end of every month. Interest on drawings is charged @ 10% p.a. At the end of year, interest on Rishu's drawings was ₹5,500. Monthly drawings of Rishu was [1]

(a) ₹1,000   (b) ₹12,000   (c) ₹6,000   (d) ₹10,000

6] Assertion (A): Interest on capital to a partner is payable only out of profits.

Reason (R): Interest on capital is an appropriation of profits which is required to be provided irrespective of profits or loss. [1]

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is false, but Reason (R) is true

(d) Assertion (A) is true, but Reason (R) is false

Direction: Read the following case study and answer questions 7 to 9 on the basis of the same.

Luv and Kush are partners of a firm. Their capitals at the end of the year 2020-2021 was ₹3,00,000 and ₹1,50,000. During the year, Luv drawings were ₹40,000 and Kush drawings were ₹10,000. Profit from profit and loss account was ₹32,000. Out of this, ₹24,000 was credited in Luv's account and the balance was credited in Kush's capital account. Kush also brought an additional capital of ₹32,000 on 1st October, 2020. The partnership deed provided for Interest on drawings @ 10% p.a. Interest on any capital introduced during the year @ 10%.

7] What was the profit sharing ratio of Luv and Kush?   [1]

(a) 2:1   (b) 1:1   (c) 3:1   (d) Can't say

8] What is Luv's interest on capital?   [1]

(a) ₹3,200   (b) ₹1,600   (c) ₹800   (d) None of these

9] What was the initial capital of Kush?   [1]

(a) ₹3,16,000   (b) ₹1,20,000   (c) ₹1,52,000   (d) ₹1,28,000

10] Anurag and Tani are partners in a firm sharing profits and losses in the ratio of 4:1. Balance Sheet showed business premises at ₹6,00,000 If value of Business premises in the Balance Sheet is undervalued by 20%, then at what value will Business premises be shown in the new balance sheet: [1]

(a) ₹6,60,000   (b) ₹7,20,000   (c) ₹4,80,000   (d) ₹7,50,000

11] If debentures of ₹9,00,000 are issued for consideration of net assets of ₹10,00,000, then the difference of ₹1,00,000 will be credited to: [1]

(a) Goodwill A/c   (b) Capital Reserve A/c

(c) General Reserve A/c   (d) Statement of Profit and Loss

12] Which shareholders have a right to receive the arrears of dividend from future profits?   [1]

(a) Redeemable Preference Shareholders

(b) Participating Preference Shareholders

(c) Cumulative Preference Shareholders

(d) Non-cumulative Preference Shareholder

OR

A portion of share capital that is reserved by the company and will be utilised only on the happening of winding up of the company is called   [1]

(a) Reserve capital   (b) Capital reserve

(c) Issued capital   (d) Subscribed capital

13] X and Y are partners sharing profits in the ratio 2:3. They admitted Z for 1/5th share of profits, for which he paid ₹1,20,000 against capital and ₹60,000 as goodwill. Find the capital balances for each partner taking Z's capital as base capital.   [1]

(a) ₹3,00,000, ₹1,20,000 and ₹1,20,000   (b) ₹3.00.000, ₹1,20,000 and ₹1,80,000

(c) ₹1,92,000, ₹2,88,000 and ₹1,20,000   (d) ₹3,00,000, ₹1,80,000 and ₹1,80,000

OR

X Y and Z have been sharing profits in the ratio of 4:2:1. Z retires. X and Y take Z's share equally. New profit sharing ratio will be: [1]

(a) 5:2   (b) 5:3   (c) 9:5   (d) 4:2

14] Identify the correct sequence of order of payment of the following, in case of dissolution of partnership firm.   [1]

(i) to each partner proportionately what is due to him/her from the firm for advances as distinguished from capital (i.e., partner's loan);

(ii) to each partner proportionately what is due to him on account of capital; and

(iii) for the debts of the firm to the third parties.

(a) (i), (ii), (iii)   (b) (ii), (i), (iii)

(c) (iii), (ii), (i)   (d) (iii), (i), (ii)

15] Assertion (A): Minimum subscription is the minimum amount which must be subscribed by the public.

Reason (R) Minimum subscription has been fixed at 80% of the issued amount.   [1]

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is false, but Reason (R) is true

(d) Assertion (A) is true, but Reason (R) is false

16] ₹12.000, 10% Debentures were issued by the Force Metal Ltd. on 1st April, 2021. During the year 2021-22, the company suffered a huge loss. In this case [1]

(a) Debenture holders will be entitled to interest of the year 2021-22

(b)Debenture holders will not be entitled to interest of the year 2021-22

(c)Debenture holders will be entitled to interest of the year 2021-22 at half rate

(d)Debenture holders will be entitled to interest of the year 2021-22 at a lower rate

OR

Mehar Ltd. issued ₹1,00,000, 12% Debentures of ₹100 each at a premium of 5% redeemable at a premium of 2%. Premium on redemption account will be   [1]

(a) Debited by ₹5,000   (b) Credited by ₹5,000

(c) Debited by ₹2,000   (d) Credited by ₹2,000

17] X and Y are partners in a firm. X is entitled to a salary of ₹ 10,000 per month and commission of 10% of the net profit after partners' salaries but before charging commission. Y is entitled to a salary of ₹25,000 p.a. and commission of 10% of the net profit after charging all commission and partners' salaries. Net profit before providing for partners' salaries and commission for the year ended 31st March, 2020 was ₹4,20,000. Show distribution of profit.   [3]

OR

P and Q were partners in a firm sharing profits equally. Their fixed capitals were ₹1,00,000 and ₹50,000 respectively. The partnership deed provided for interest on capital @10% per annum. For the year ended 31st March, 2016, the profits. of the firm were distributed without providing interest on capital Pass necessary adjustment entry to rectify the error.   [3]

18] Bhaskar and Pillai are partners sharing profits and losses in the ratio of 3 : 2. They admit Kanika into partnership for 1/4th share in profit. Kanika brings in her share of goodwill in cash. Goodwill for this purpose is to be calculated at two years' purchase of the average normal profit of past three years. Profits of the last three years ended 31st March, were: [3]

2019 - Profit ₹50,000 (including profit on sale of assets ₹5,000).

2020 - Loss ₹ 20,000 (including loss by fire ₹30,000).

2021 - Profit ₹70,000 (including insurance claim received ₹18,000 and interest on investments and Dividend received ₹ 8,000).

Calculate the value of goodwill. Also, calculate goodwill brought in by Kanika.

19] X, Y and Z were partners in a firm sharing profit in 3 : 2 : 1. The firm closes its books on 31st March every year. Y died on 30th June, 2021. On Y's death goodwill of the firm was valued at ₹60,000. Y's share in the profit of the firm till the date of his death was to be calculated on the basis of previous year's profit which was   ₹1,50,000.

Pass necessary Journal entries for goodwill and Y's share of profit at the time of his death.   [3]

20] Narain Laxmi Ltd. invited applications for issuing 7,500, 12% debentures of ₹100 each at a premium of ₹35 per debenture. The full amount was payable on application. Applications were received for 10,000 debentures. Applications for 2,500 debentures were rejected and the application money was refunded. Debentures were allotted to the remaining applicants on pro-rata basis. Pass necessary journal entries for the above transactions in the books of Narain Laxmi Ltd.   [3]

OR

Rose Ltd. issued 25,000 shares of ₹10 each credited as fully paid to the promoters for their services. It also issued 15,000 shares of ₹10 each credited as fully paid to the underwriters for their commission. Give Journal entries.   [3]

21] Star Ltd. is registered with capital of ₹ 50,00,000 divided into 50,000 equity shares of ₹ 100 each, The Company issued 25,000 equity shares for subscription. Subscription was received for 23,750 shares and all the due amount was duly received, except the first and final call of ₹ 20 per share on 600 shares. Show the 'Share Capital' in the Balance Sheet of the company.   [4]

22] Pass the necessary journal entries for the following if the firm is getting dissolved.   [4]

a) Creditors were ₹ 90,000. They accepted Building valued at ₹ 1,20,000 and paid cash to the firm ₹ 30,000.

b) Realisation expenses amounted to ₹ 10,000 were paid by the firm on behalf of Alok, a partner, with whom it was agreed at ₹ 7,500.

c) An asset not appearing in the books of accounts realised ₹ 1,200.

d) X a partner who has advanced loan of ₹55,000 has accepted an unrecorded machinery whose expected realisable value was ₹60,000 for ₹45,000 and for the rest cash.

23] Following is the Balance Sheet of Abha and Binay as at 31st March,2021:   [6]

Liabilities	₹	Assets		₹
Creditors	13,000	Bank		15,000
Employees Provident Fund	10,000	Debtors	22,000	
Workmen Compensation fund	15,000	Less: Prov.	1,000	21,000
Capital A/cs:		Stock		10,000
Abha	53,000	Plant and Machinery		60,000
Binay	30,000	Goodwill		10,000
		P/L A/c		5,000
	1,21,000			1,21,000

Chitra was admitted as a partner for 1/4th share in the profits of the firm. It was decided that:

(a) Bad Debts amounted to   ₹ 1,500 will be written off.

(b) Stock worth   ₹ 8,000 was taken over by Abha and Binay at Book Value in their profit-sharing ratio. The remaining stock was valued at   ₹ 2,500.

(c) Plant and Machinery and Goodwill were valued at   ₹ 32,000 and   ₹ 20,000 respectively.

(d) Chitra brought her share of goodwill in cash.

(e) Chitra will bring proportionate capital and the capitals of Abha and Binay will be adjusted in their profit-sharing ratio by bringing in or paying off cash as the case may be.

Prepare Revaluation Account and Partners' Capital Accounts.

OR

Rakesh retired from the firm Mar31,17. The amount due to him was determined at ₹ 90,000. It was decided to pay the due amount as follows: On the date of retirement − ₹ 30,000 Balance in three yearly instalments − First two instalments being of ₹ 26,000, including interest; and Balance amount as last instalment. Interest was payable @ 10% p.a. Prepare retiring Partners' Loan Account.   [6]

24] X, Y and Z were partners in a firm sharing profits in the ratio of 2 : 2 : 1. On 31st March, 2020, their Balance Sheet was as follows: [6]

Liabilities		(₹)	Assets	(₹)
Trade Creditors		1,20,000	Cash at Bank	1,80,000
Bills Payable		80,000	Stock	1,40,000
General Reserve		60,000	Sundry Debtors	80,000
Capital A/cs:			Building	3,00,000
X	7,00,000		Advance to Y	7,00,000
Y	7,00,000		Profit and Loss A/c	3,20,000
Z	60,000	14,60,000		
		17,20,000		17,20,000

Y died on 30th June, 2020. The Partnership Deed provided for the following on the death of a partner:

(i) Goodwill of the business was to be calculated on the basis of 2 times the average profit of the past 5 years. Profits for the years ended 31st March, 2019, 31st March, 2018,   31st   March,   2017   and   31st   March,   2016 were ₹ 1,00,000; ₹ 1,60,000; ₹ 2,20,000 and ₹ 4,40,000 respectively.

(ii) Y's share of profit or loss from 1st April, 2020 till his death was to be calculated on the basis of last year profit or loss .

You are required to calculate the following:

(a)Goodwill of the firm and Y's share of goodwill at the time of his death.

(b) Y's share in the profit or loss of the firm till the date of his death.

(c) Prepare Y's Capital Account at the time of his death to be presented to his executors.

25] Venus Ltd was registered with an authorised capital of ₹40,00,000 divided into 4,00,000 equity shares of ₹ 10 each. 70,000 of these shares were issued as fully paid to 'M/s. Star Ltd! for building purchased from them. 2,00,000 shares were issued to the public and the amounts were payable as follows: [6]

On Application ₹3 per share, On Allotment ₹2 per share, On First call ₹2 per share and second and final call ₹ 3 per share

The amounts received on these shares were as follows:

On 1,00,000 shares	-	Full amount called
On 60,000 shares	-	₹7 per share
On 30,000 shares	-	₹5 per share
On 10,000 shares	-	₹3 per share

The directors forfeited 10,000 shares on which only ₹ 3 per share were received. These shares were reissued at ₹ 12 per share fully paid. Pass necessary Journal entries for the above transactions in the books of Venus Ltd.

OR

KS Ltd. invited applications for issuing 1,60,000 equity shares of ₹10 each at a premium of ₹6 per share. The amount was payable as follows: [6]
On Application ₹4 per share (including premium ₹1 per share)
On Allotment ₹6 per share (including premium ₹3 per share)

On First and Final Call-Balance

Applications for 3,20,000 shares were received. Applications for 80,000 shares were rejected and application money refunded. Shares were allotted on pro-rata basis to the remaining applicants. Excess money received with applications was adjusted towards sums due on allotment. Jain holding 800 shares failed to pay the allotment money. His shares were forfeited immediately after allotment. Afterwards the final call was made The forfeited shares were re-issued at ₹8 per share fully paid up. Pass necessary journal entries for the above transactions in the books of KS Ltd.

26] a) Rama Ltd. took over the following assets and liabilities of Krishna Ltd. on 1st April, 2019

	Amt (₹)
Land and Building	50,00,000
Furniture	10,00,000
Stock	5,00,000
Creditors	7,00,000

The purchase consideration of ₹ 60,00,000 was paid by issuing 12% debentures of ₹ ₹100 each at a premium of 20%. Pass the necessary journal entries for the above in the books of Rama Ltd.

b) Show by means of journal of how would you record the following

i) B Ltd. issues ₹6,00,000, 12% Debentures at a discount of 6% redeemable at premium of 7%.

ii) C Ltd. issued ₹5,00,000, 12% debenture as collateral security for a bank loan of 4,00,000.   [3+3]

Part B:- Analysis of Financial statements

27] Current ratio of Vidur Pvt. Ltd. is 3:2. Accountant wants to maintain it at 2:1. Following options are available   [1]
(i) He can repay bills payable.

(ii) He can take short-term loan.

(iii) He can purchase goods on credit.

Choose the correct option.

(a) Only (i) is correct   (b) Only (ii) is correct

(c) Only (i) and (iii) are correct   (d) Only (ii) and (iii) are correct

28] Purchase returns amounting to ₹20,000 will deteriorate the inventory turnover ratio   [1]
(a) True   (b) False   (c)Can't say   (d) Partially true

OR

Which of the following is not included under revenue from operations' in the statement of profit and loss?   [1]
(a) Sale of products   (b) Sale of services

(c) Other operating revenues   (d) Interest income

29 Assertion (A): An inflow or outflow between components of cash and cash equivalent is not considered.   [1]

Reason (R): It is called management of cash

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is false, but Reason (R) is true

(d) Assertion (A) is true, but Reason (R) is false

OR

Issue of shares for consideration other than cash will result into cash ………. [1]

(a) inflow   (b) outflow   (c) no flow   (d) None of these

30] Which of the following is not a limitation of 'financial statements analysis"? [1]

(a) It is affected by personal bias.   (b) Inter-firm comparative study possible.

(c) Lack of qualitative analysis.   (d) Ignores price level changes.

31] Classify the following items under Major heads and Sub-head (if any) in the Balance Sheet of a Company as per schedule III of the Companies Act 2013.

(i) Current maturities of long term debts   (ii) Furniture and Fixtures

(iii)Provision for Warranties   (iv)Income received in advance

(v) Capital Advances

(vi)Advances recoverable in cash within the operation cycle [3]

32] One of the objectives of financial statements analysis is to judge the ability of the firm to repay its debt and assessing the short term as well as the long term liquidity position of the firm. State two more objectives of this analysis. [3]

33] Calculate Inventory Turnover Ratio in each of the following alternative cases:

Case 1: Cash Sales 25% of Credit Sales; Credit Sales ₹3,00,000; Gross Profit 20% on Revenue from Operations, i.e., Net Sales; Closing Inventory ₹1,60,000; Opening Inventory ₹40,000.

Case 2: Cash Sales 20% of Total Sales; Credit Sales ₹4,50,000; Gross Profit 25% on Cost; Opening Inventory ₹37,500; Closing Inventory ₹1,12,500. [4]

OR

Calculate Return on Investment (ROI) from the following details: Net Profit after Tax ₹ 6,50,000; Rate of Income Tax 50%; 10% Debentures of ₹ 100 each ₹ 10,00,000; Fixed Assets at cost ₹ 22,50,000; Accumulated Depreciation on Fixed Assets up to date ₹ 2,50,000; Current Assets ₹ 12,00,000; Current Liabilities ₹ 4,00,000. [4]

34] From the following information prepare Cash Flow statement: [6]

Particulars	Note no.	31.03.2020	31.03.19
I. EQUITY AND LIABILITIES			
(1) Shareholders' funds			
Share capital		1,00,000	1,00,000
Reserves & Surplus (P&L A/c)		50,000	30,000
(2) Non-Current Liabilities			
6% Debentures		80,000	60,000
(3) Current Liabilities			
Trade Payables		35,000	30,000
Other Current Liabilities		65,000	70,000
Total		3,30,000	2,90,000
II. ASSETS			
(1) Non-Current Assets			
Tangible Fixed Assets		1,90,000	1,50,000
Non-Current Investments		30,000	40,000
(2) Current Assets			
Inventories		55,000	40,000
Trade Receivables		45,000	40,000
Cash & Cash Equivalent		10,000	20,000
Total		3,30,000	2,90,000

Additional Information:

(i) A piece of Machinery costing ₹5,000 on which accumulated depreciation of ₹2,000 had been charged was sold for ₹1,000. Depreciation charged during the year was ₹17,000.

(ii) During the Current Year new Debentures have been issued on 1st Aug 20019.

General Instructions:

1. This question paper contains five sections, Section A to E.

2. All questions are compulsory.

3. Section A have 18 questions carrying 01 mark each.

4. Section B has 07 Very Short Answer type questions carrying 02 marks each.

5. Section C has 05 Short Answer type questions carrying 03 marks each.

6. Section D has 03 Long Answer type questions carrying 05 marks each.

7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.

 8. All programming questions are to be answered using Python Language only.

<div align="center">SECTION A</div>

1] Find the invalid identifier from the following:

a] MyName   b] True   c] ndName   d]My_Name

2]Identify the valid arithmetic operator in Python from the following :

a] **   b] <   c] ?   d] and

3] A tuple T is declared as : T=(10,12,43,39), then which of the following is incorrect?

a] print(T(1)]   b] T[2]= -29   c] print(max(T))   d] print(len(T))

4]Which of the following is a DDL command ?

a]SELECT   b] ALTER   c] INSERT   d]UPDATE

5] Identify the valid declaration of DL :

DL = ['Mon' , '23 ',' hello ', '60.5']

6] Name the protocol that is used to send emails.

7] In SQL,what is the use of IS NULL operator ?

8] Which method is used to reflect the changes made in the database permanently ?

9] Name the transmission media best suitable for connecting to hilly areas .

10] What is the significance of newline=" " argument in file open() function ?

11] To establish a connection between Python and SQL database, connect() is used. Which of the following arguments may not necessarily be given while calling connect() ?

 a] host   b] database   c] user   d] password

12] The correct syntax of seek() is:

 a] file_object.seek(offset [, reference_point])

b] seek(offset [, reference_point])

c] seek(offset, file_object)

d] seek.file_object(offset)

13] Which keyword in SQL used to find unique values from various duplicate values in a column?

14] Given the lists L=[1,3,6,82,5,7,11,92, 24,44] , Write the output of print(L[: : -2])

15] What is pickling ?

16] What will the following expression be evaluated to in Python?

       print(4.0 / 10 + 2 * 3 . 5)

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as

a] Both A and R are true and R is the correct explanation for A

b]Both A and R are true and R is not the correct explanation for A

c] A is True but R is False

d] A is false but R is True

17]Assertion (A):- The file access mode 'a' is used to append the data in the file.

 Reasoning (R):- In the access mode 'a' the text will be appended at the end of existing file . If the file does not exist,Python will create a new file and write into it .

18] Assertion (A): SQL query is executed using parameterized execute statement .

 Reason (R): The retrieved records are stored as resultset.

SECTION B

19]   def gfg (x,l=[]):

                 for i in range (x):

                      l.append(i*i)

                 print(l)

             gfg(3,[3,2,1])

20] Write two points of difference between Circuit Switching and Packet Switching.

OR

Write two points of difference between XML and HTML.

21] What do you understand by scope of variables?

22] What is the significance of file object? Give an example.

23] (a) Write the full forms of the following:

 i] SMTP   ii] NSFNET   iii] HTTPS   iv] TCP/IP

24] Find the output.

```
def calcresult():
        i = 9 while i>1:
                if(i%2==0):
                        x=i%2 i=i-1
                else:
                        i=i-2 x=i
                print(x**2)
    calcresult()
```

OR

 Rewrite the following Python program after removing all the syntactical errors (if any),underlining each correction.

```
def checkval:
        x = input("Enter a number")
         if x % 2 = 0 :
                print (x,"is even")
        else if x<0:
                print (x,"should be positive")
        else ;
                print (x,"is odd")
```

25] Differentiate between count() and count(*) functions in SQL with appropriate example.

OR

    Write the full forms of DDL and DML. Write any two commands of DML in SQL.

SECTION C

26.i] Define the following terms:Web Browser,Web Hosting   [1+2]

ii] Write one similarity and dissimilarity of Primary Key and Unique Key .

27] Write a function in python to count the number of upper-case alphabets present in a text file "Article.txt".

OR

Write a function Displaywords() in python to read lines from text file story.txt and display those words which are less than 4 characters.

28] i] Which command deletes an entire table, a view of a table or other objects in the database?

ii] Write the output of the queries (a) to (d) based on the table Sportstars, given below:

Table: Sportstars

Admn_No	Name	DOB	Sport	Medals	Class
V1237	Vanshika	2005-02-19	Tennis	3	11
S1432	Ruhaani	2005-09-11	Football	5	12
SM1781	Aalam	2005-07-01	Cricket	4	11
V1935	Manan	2005-04-07	Football	6	11
S1276	Aarav	2005-10-06	Tennis	4	12
SM1872	Rehaan	2004-12-11	Football	3	12

a] SELECT COUNT(*) FROM Sportstars WHERE Medals>=4;

b] SELECT SUM(Medals) FROM Sportstars WHERE Class=12;

c] SELECT MAX(DOB) FROM Sportstars;

d] SELECT DOB FROM Sportstars WHERE Admn_No LIKE "SM%"

29] Write a function INDEX_LIST(L), where L is the list of elements passed as argument to the function. The function returns another list named 'indexList' that stores the indices of all Non-Zero Elements of L.

For example: If L contains [12,4,0,11,0,56]

The indexList will have - [0,1,3,5]

30] Write a function in Python, Push(SItem) where , SItem is a dictionary containing the details of stationary items– {Sname:price}.

The function should push the names of those items in the stack who have price greater than 75. Also display the count of elements pushed into the stack.

For example: If the dictionary contains the following data:

Ditem={"Pen":106,"Pencil":59,"Notebook":80,"Eraser":25}

The stack should contain: Notebook Pen

The output should be: The count of elements in the stack is 2

OR

Vedika has created a dictionary containing names and marks as key-value pairs of 5 students. Write a program, with separate user-defined functions to perform the following operations:

- Push the keys (name of the student) of the dictionary into a stack, where the corresponding value (marks) is greater than 70.
- Pop and display the content of the stack.

SECTION D

31] Polymath IT Infrastructure Limited has set up its new center in Dubai. It has four buildings as shown in the diagram given below:
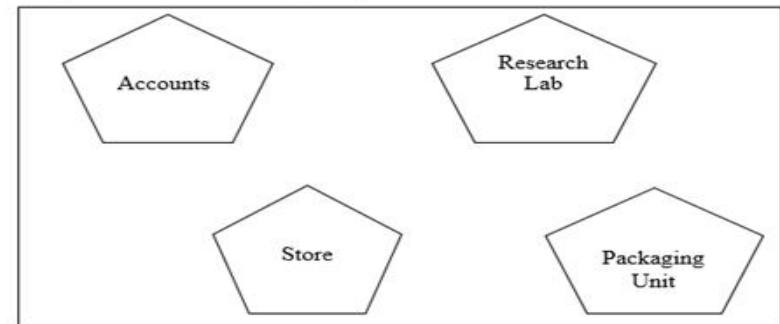
Distances between various buildings are as follows:

Accounts to Research Lab	55 m
Accounts to Store	150 m
Store to Packaging Unit	160 m
Packaging Unit to Research Lab	60 m
Accounts to Packaging Unit	125 m
Store to Research Lab	180 m

Number of Computers

Accounts	25
Research Lab	100
Store	15
Packaging Unit	60

As a network expert, provide the best possible answer for the following queries:

(i) Suggest a cable layout of connections between the buildings.

(ii) Suggest the most suitable place (i.e. buildings) to house the server of this organization.

(iii) Suggest the placement of the following device with justification:

    (a) Repeater   (b) Hub/Switch

(iv)Which fast and very effective wire based transmission medium should preferably be used to connect the buildings for their web-based activities?

32] (a) Write the output of the code given below:

```
p=5
def sum(q,r=2):
        global  p
        p= r + q ** 2
        print( p, end= ' # ' )
a=10
b=5
sum(a,b)
sum(r=5,q=1)
```

b)Note the following to establish connectivity between Python and MYSQL:

- Username is learner
- Password is fast

The table exists in a MYSQL database named items.

Write a Python database connectivity script that deletes records from category table of database items that have name = 'Stockable'

OR

(a) Predict the output of the code given below:

```
s="welcome2cs"
n = len(s)
m=""
for i in range(0, n):
        if (s[i] >= 'a' and s[i] <= 'm'):
                m = m +s[i].upper()
        elif (s[i] >= 'n' and s[i] <= 'z'):
                m = m +s[i-1]
        elif (s[i].isupper()):
                m = m + s[i].lower()
        else:
                m = m +'&'
    print(m)
```

b] Observe the following python code and answer the questions:

```
import mysql.connector as c
con = c.connect(host="localhost", user="root", passwd="", database="test")
mycursor= _____#Statement 1
mycursor.execute(" CREATE TABLE studentinfo (name VARCHAR (30), age INT(3)")
sql = """INSERT INTO studentinfo( name, age) VALUES ('Ashok',17) """
_____ #Statement 2
con.commit()
_____#Statement 3
```

i[Write the python statement to establish the database cursor as statement1.

ii] Write the python statement to insert the row into the table as Statement 2 by using the string 'sql' given above.

iii] Write the python statement to close the connection.

33] Give any one point of difference between a binary file and a csv file.

Write a Program in Python that defines and calls the following user defined functions:

i] add() – To accept and add data of an employee to a CSV file 'employee.csv'. Each record consists of a list with field elements as EmpNo,EmpName and Salary.

ii] search()- To display the sum of the salary of all the Employees and count the number of employees who are getting salary more than 7000.

OR

Write a Program in Python that defines and calls the following user defined functions:

i] add() – To accept and add data of an student to a CSV file 'student.csv'. Each record consists of a list with field elements as **Adm.No, StudentName, Marks**.

ii] display()- To display the marks of the student who gets the highest marks.

SECTION E

34] Write SQL queries for (i) to (iv) which are based on the tables **SCHOOL** and **Admin**

Table : SCHOOL

CODE	TEACHER NAME	SUBJECT	DOJ	PERIODS	EXPERIENCE
1001	Ravi Shankar	English	12/3/2000	24	10
1009	Priya Rai	Physics	03/09/1998	26	12
1203	Lisa Anand	English	09/04/2000	27	5
1045	Yashraj	Maths	24/08/2000	24	15
1123	Ganan	Physics	16/07/1999	28	3
1167	Harish B	Chemistry	19/10/1999	27	5
1215	Umesh	Physics	11/05/1998	22	16

Table: Admin

Code	Gender	Designation
1001	Male	Vice Principla
1009	Female	Co-ordinator
1203	Female	Co-ordinator
1045	Male	HOD
1123	Male	Senior Teacher
1167	Male	Senior Teacher
1215	Male	HOD

i] To display TEACHERNAME, PERIODS of all teachers whose periods are more than 25.

ii] To display all the information from the table SCHOOL in descending order of experience.

iii] To display DESIGNATION without duplicate entries from the table ADMIN.

iv] To display TEACHERNAME, CODE and corresponding DESIGNATION from tables SCHOOL and ADMIN

35] Ranjan Kumar of class 12 is writing a program to create a CSV file "user.csv" which will contain user name and password for some entries. He has written the following code. As a programmer, help him to successfully execute the given task.

```
import_____                                      # Line 1
def addCsvFile(UserName,PassWord):
 f=open(' user.csv','_____')                  # Line 2
        newFileWriter = csv.writer(f)
        newFileWriter.writerow([UserName,PassWord])
        f.close()
def readCsvFile():
        with open(' user.csv','r') as newFile:
                newFileReader = csv._____ (newFile)     # Line 3
                for row in newFileReader:
                print (row[0],row[1])
                newFile._____                         # Line 4
addCsvFile("Arjun","123@456")
addCsvFile("Arunima","aru@nima")
addCsvFile("Frieda","myname@FRD")
readCsvFile()
```

a] Name the module he should import in Line

b] In which mode, Ranjan should open the file to add data into the file

c] Fill in the blank in Line 3 to read the data from a csv file.

d] Fill in the blank in Line 4 to close the file.

General Instructions:

1. Please read the instructions carefully.

2.This Question Paper consists of 21 questions in two sections: Section A & Section B.

3. Section A has Objective type questions whereas Section B contains Subjective type questions.

4. Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.

5. All questions of a particular section must be attempted in the correct order.

6. SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):

 i. This section has 05 questions.

 ii. Marks allotted are mentioned against each question/part.

 iii. There is no negative marking.

 iv. Do as per the instructions given.

7. SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):

 i. This section has 16 questions.

 ii. A candidate has to do 10 questions.

 iii. Do as per the instructions given.

 iv. Marks allotted are mentioned against each question/part

SECTION A: OBJECTIVE TYPE QUESTIONS

Q.1 Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)

i] Meena believes that she will not have ability to work with a team when she starts her business. The barrier she is facing is _____.

a]getting capital   c] self- doubt

b]risk taking ability   d] None of these

ii] A competent person is

a] Self-confident   b] Emotional   c] Dependent   d] Lazy

iii] _____ is the command to copy the text

a] CTRL + O   b] CTRL + A   c] CTRL + C   d] CTRL + Z

iv] The ability to continue to do something, even when it is difficult, is called _____

a] Initiative   c] perseverance

b] Organizational skills   d] None of these

v] Which of these is not a benefit of Self-motivation?

a] It increases individual's energy and activity.

b] It directs an individual towards specific goals.

c] It helps prevent catching any illness.

d] It results in initiation and persistence of specific activities.

vi] For an entrepreneur, aversion to risk is:

a] A failure

b] An opportunity

c] A psychological barrier

d] An initiative

Q. 2 Answer any 5 out of the given 6 questions   (1 x 5 = 5 marks)

i] During which stage would you:Start looking for alternative ways of viewing the problem.

a]Prototype   b]Define   c]Ideate   d]Empathize

ii] _____ data story told through articles, blog posts, or books

a]Written   b]Explanatory   c]Digital   d]None of these

iii] "Techniques such as descriptive statistics and visualization can be applied to the data set,to assess the content ,quality and initial insights about the data".Identify the stage of the AI project life cycle.

a] Problem Scoping   b] Data Exploration   c]Modelling   d]Evaluation

iv] Problem decomposition means

a]breaking down the problem into smaller units after coding .

b] coding the solution

c]Either (a) or (b)

d] break down the problem into smaller units before coding.

v] The design phase of the AI Model Life Cycle is an _____ process.

a] compact   b] permanent   c] periodic   d] iterative

vi] Match the following

1.Which category?   A. (Anomaly Detection)

2.How much or how many?   B. (Regression)

3. Which group?   C. (Recommendation)

4.Is this unusual?   D. (Classification)

                                                          E. (Clustering)

Which option should be taken?

a]1=D, 2=B, 3=E, 4=A, 5=C   c]1=D, 2=B, 3=C, 4=E, 5=A

b] 1=C, 2=D, 3=B, 4=E, 5=A   d]1=E, 2=A, 3=D, 4=C, 5=B

Q.3 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)

i]Which of these is the reason for using Mean Squared Error (MSE)?

a] It is sensitive towards outliers.   b] It is sensitive towards mean.

c] It is important when Media > Mode.   d] It is useful in polynomial distribution

ii] A loss function is a measure of how good a prediction model is in ter being able to predict he expected outcome.

1.The loss function will output a lower number, if the predictions are good.

2.The loss function will output a greater number if the predictions are incorrect

a] Only (1) is correct.   b]Only (2) is correct.

c] Either (1) or (2) is correct.   d] Both (1) and (2) are correct.

iii] In this phase, we define the project's strategic business objectives and desired outcomes, align all stakeholders' expectations as well as establish success metrics. Identify this phase of the AI Model Life Cycle.

a] Design   b] Scoping

c] Evaluation   d] Data Collection

iv] What is the meaning of Mean Squared Error in regression?

a] MSE is the sum of squared distances between our target variable and predicted values.

b] MSE is the sum of distances between our target variable and predicted values.

c] MSE is the sum of cubic distances between our target variable and predicted values.

d] MSE is the sum of distances between our mean and predicted values.

v] Assertion (A): The loss function will output a lower number, if the predictions are good

Reason(R): The loss function will output a greater number if the prediction are incorrect.

Select the appropriate option for the statements given above:

a] Both A and R are true and R is the correct explanation of A

b] Both A and R are true and R is not the correct explanation of A

c] A is true but R is false

d] A is False but R is true

vi] _____ data story told through articles, blog posts, or books.

a] Written   b]Explanatory   c]Digital   d]None of these

Q. 4 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)

i] Which of the following is a disadvantage of Cross Validation Technique?

a] Cross-validation provides insight into how the model will generalise to a new dataset.

b] Cross-validation aids in determining a more accurate model prediction performance estimate.

c] As we need to train on many training sets, cross-validation is computationally expensive.

d] Cross-validation could result in more precise models.

ii] What can you not interpret from the below data story for user on using Uber as a service?

a]The drivers have rated the user high.

b] It has been almost 4 years since user joined Uber.

c] The number of miles travelled in Uber are comparable to 13,080 Olympic-sized pools.

d] The user has paid almost USD 100,000 in trips.

iii] Which of these are performance metrics in modelling?

a]Classification Accuracy   b] Model score

c] Root Mean Square Error   d] Test score

a] (i) and (ii)   c] (i) and (iv)

b] (ii) and (iii)   d]) (i) and (iii)

iv] Which of these is not a reason why Data Storytelling is important?

a] It helps standardize communication and spreads results.

b] It is more convincing as it has data backing a story or claim.

c] It supplies context, insight, interpretation.

d] It helps the user understand emotion behind the narrative.

v] What are the objectives of the testing team in AI modelling?

1] Model Validation   2] Successful Learnability

3] Accurate Results   4] Algorithm Effectiveness

a] (1), (2) and (3)   b] (1) and (2)   c] (2), (3) and (4)   d] (1), (2) and (4)

vi] The _____ is the lesson how the character overcomes a challenge.

a] Resolution   b] Character   c] Conflict   d] None of these

Q. 5 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)

i]Choose an example of an AI predictive model.

a] YouTube   b] Spam detection   c] weather forecast   d] Sentiment Analysis

ii] A _____ is a set of historical data in which the outcomes are already known.

a] testing set   b] modelling   c]training set   d]None of these

iii] In _____, we run our modeling process on different subsets of the data to get multiple measures of model quality.

a] train_test_split   b]cross-validation   c]Evaluation   d]Decision trees

v] Regression functions predict a _____, and classification functions predict a _____

a] quantity, label   b] label, quantity   c] label,label   d] quantity,quantity

v] Which of the following options is/are true for K-fold cross-validation?

1]Increase in K will result in higher time required to cross validate the result.

2]Higher values of K will result in higher confidence on the cross-validation result as compared to lower value of K.

53]If K=N, then it is called Leave one out cross validation, where N is the number of observations.

a] 1 and 2   b] 2 and 3   c] 1 and 3   d] 1,2 and 3

vi] Once you have got an AI model that's ready for production, AI engineers then _____ a trained model, making it available for external inference requests.

a] Evaluate   b] Test   c] Deploy   d] Redesign

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6)

Answer each question in 20 – 30 words.

Q.6 Name two qualities of a person with entrepreneurial skills. Explain in a sentence each.

Q.7 Why is self-management important? Give one example.

Q.8 What do you mean by interpersonal skills?

Q.9 What are the advantages of using a presentation?

Q.10 Why Organisational skills are important ?

Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8)

Q.11 Differentiate between training set and test set.

Q.12 "Once the relevant projects have been selected and properly scoped, the next step of the machine learning lifecycle is the Design or Build phase." Briefly explain this phase.

Q.13 What is the importance of a narrative in a story?

Q.14 Define capstone project.

Q.15 Name any two key elements of data storytelling? Explain

Q.16 What are the two possible graphs that can be used to represent this data?

Year	Attrition Rate
2019	9.1%
2018	8.2%
2017	4.5%
2016	12.3%
2015	5.6%
2014	15.1%
2013	7.0%
2012	1.0%
2011	2.0%
2010	9.7%
AVG	7.5%

Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12)

Q.17 Explain the Cross Validation Procedure? In which situation is it better than a Train Test Split?

Q.18 Consider the following data:

x	y
1	1
2	2
2	3
3	6

Regression Equation: 2.5x-2.0

Calculate the RMSE(Root means Square Error) for the above data.

Q.19 Why data storytelling has acquired a place of importance?

Q.20 Why storytelling is so powerful and cross-cultural and what this means for data storytelling?

Q.21 Study the following image

Explain the stages – Data Requirements and Feedback