

DNYAN BHARTI SOCIETY'S

SAU. SITABAI RAMKRUSHNA KARANDIKAR SENIOR COLLEGE OF COMMERCE

LATE MEHERNOSH BOMAN BURJOR IRANI COLLEGE OF ARTS

BSES JUNIOR COLLEGE OF SCIENCE

VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 26/10/2013

FIRST TERM END EXAM - OCTOBER 2013

Max. Marks: 50

Class: S.Y.J.C. (COM/SCI)

Subject: English

Time: 02 hours

Q. 1-A) Read the following extract and answer the questions given below

(11)

The next day, the king arrived in court humming a happy tune to himself. Seeing all the people gathered there waiting for him, he was even more pleased. He cleared his throat and said in a loud voice, "I have called you here to ask you a very important question. As your king, I need to know if all of you are contented. Do you have enough for your needs? Do you know anyone who is not happy about anything?"

The citizens looked at each other, thought for a while and slowly one by one they came forward to answer. One after another they all said how happy they were - their kitchens had enough food, their trades and business were doing well, the king had made them feel safe. The farmers had grown good crops and the rivers and ponds were full of fish. What more could they ask for?

The king became more and more pleased as he heard this. Only Chandan, his minister, watched and heard everything with a frown on his face. Why? What was wrong? Soon he walked up to the king and whispered something in his ear. King Amrit's eyebrows rose up in astonishment. Surely, Chandan could not be serious. But he looked at the minister's face and found no trace of this being a joke.

He turned back to the court and made a most unusual announcement. "I am delighted that all of you have said you are happy. But I want to test this. Tomorrow, I want all the happy people of this kingdom to come and meet me in the royal gardens. But I have a condition. All of you will have to enter the garden by the gate at the rear of the garden. I will wait for you there. When you enter the garden you will be given a sack each and you can pick whatever fruits or flowers your heart desires."

An excited buzz broke out among the crowd. It sounded like a lot of fun. No one was usually allowed to enter the king's special garden. He had planted trees from all over the world in that garden and it was said to be filled with all kinds of beautiful and strange plants.

1. What do you come to know about the Minister Chandan from this passage? (01)
2. Why did the king become more and more pleased? (02)
3. Why did an excited buzz break out among the crowd? (02)
4. Do you think King Amrit was a good king and ruled his kingdom well? Why? (02)
5. Do as directed:
 - (a) He walked up to the king to whisper something in his ear. (01)
(Rewrite using the Present Continuous Tense)
 - (b) He looked at the minister's face and found no trace of this being a joke. (01)
(Rewrite as a simple sentence)
 - (c) The farmers had grown good crops. (01)
(Change the voice)
6. Write the meaning of buzz. (01)

Q. 1-B) Grammar**(04)**

- 1) _____ first interest rate cut by _____ Reserve Bank in three years represent _____ huge cutting of amount. (01)
(Use suitable articles)
- 2) _____ Tuesday, a meeting was convened _____ New Delhi by the Union Minister for Agriculture. (01)
(Use proper prepositions)
- 3) “Why did you touch that purse?” said Soudamini. “This is my purse”, Mallika answered in tears. (02)
(Change into indirect speech)

Q. 2) Read the following extract and answer the questions given below**(11)**

They would be wonderstruck at the sight of his landing on my head and fly away together, making musical sounds in chorus. For more than three years he had been my intimate friend whom I had given all the freedom he was born to. At last, he stopped coming. His family bonds might have become stronger than his friendship, with me. Still I miss him, but I am happy that he was not denied the joys and ecstasy of the arboreal life to which he was born.

Today, this real story is the one my five-year old, younger daughter wants to hear again and again. I have recounted the story umpteen times. And every time after hearing it, she asks me to show her a woodpecker which makes nests for parrots.

Alas, they are not seen nowadays! Not only woodpeckers, even the parrots are not seen in our locality. And what happened to the weaver-birds? Not even a single nest is seen today. How can they be seen? Paddy cultivation is disappearing from my village and can these birds, who feed mainly on paddy, survive the man-made ‘climate change’ or rather the ‘cultivation change’? But where have all the woodpeckers gone? What happened to them? In the yesteryear, the bird was spotted in pairs almost every day, but now I have not been able to show my five-year old younger child even a single woodpecker! I have been listening long since to hear the sound tak, tak, tak ... tak, tak, tak ...

1. The narrator is _____ because the parrot did not turn up. (01)
(unhappy / happy / sad)
2. Who wants to hear the real story again and again? Why? (02)
3. Why are woodpeckers, parrots and weaver birds not seen in the writers’ locality nowadays? (02)
4. How do you think urbanization affects biodiversity? (02)
5. Grammar:
 - (a) For more than three years he had been my intimate friend. (01)
(Make it interrogative)
 - (b) Not only woodpeckers, even the parrots are not seen in our locality. (01)
(Rewrite without using ‘not’)
 - (c) How can they be seen? (01)
(Rewrite as a statement)
6. Explain the phrase “ecstasy of the arboreal life.” (01)

Q. 3) Read the following extract from the poem and answer the questions given below

(04)

And we with our small vanities
Our controlled hunger for climbing
and getting as far as everybody else has gotten
because it seems that is the way of the world:
an endless track of champions
and in a corner we, forgotten
may be because of everybody else,
since they seemed so much like us
until they were robbed of their laurels,
their medals, their titles, their names.

1. What is the way of the world? (01)
2. Do you think the middle class is marginalized in cities? Why? (01)
3. Identify the figure of speech in the line "since they seemed so much like us"? (01)
4. Who are the champions? Why? (01)

Q. 4) Read the following extract from Rapid Reading and answer the given question

(04)

She nodded. "My family was hiding on a farm in Germany, not far from Berlin," she told me. "My father knew a priest, and he got us Aryan papers."

I imagined how she must have suffered too, fear, a constant companion. And yet here we were both survivors, in a new world.

"There was a camp next to the farm." Roma continued. "I saw a boy there and I would him apples every day."

What an amazing coincidence that she had helped some other boy. "What did he look like?" I asked. "He was tall, skinny, and hungry, I must have seen him every day for six months."

My heart was racing. I couldn't believe it. This couldn't be. "Did he tell you one day not to come back because he was leaving Schlieben?"

Roma looked at me in amazement. "Yes!"

"That was me!"

I was ready to burst with joy and awe, flooded with emotions. I couldn't believe it! My angel.

"I am not letting you go." I said to Roma. And in the back of the car on that blind date, proposed to her. I didn't want to wait.

"You're crazy!" she said. But she invited me to meet her parents for Shabbat dinner the following week. There was so much I looked forward to learning about Roma, but the most important things I always knew; her steadfastness, her goodness. For many months, in the worst of circumstances, she had come to the fence and given me hope. Now that I'd found her again, I could never let her go.

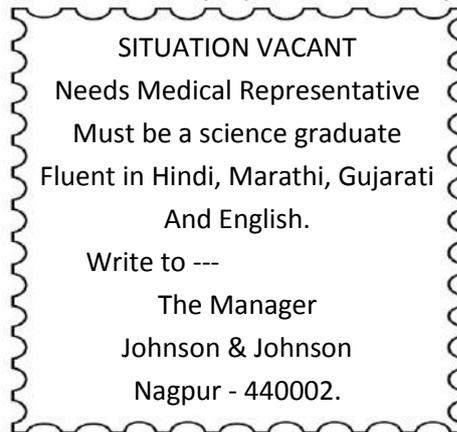
That day, she said yes. And I kept my word. After nearly 50 years of marriage, two children and three grandchildren I have never let her go.

Imagine that you are the author, narrate what Roma told you.

Q. 5-A) Letter Writing

(04)

i. Read the following advertisement and prepare a letter of application.



OR

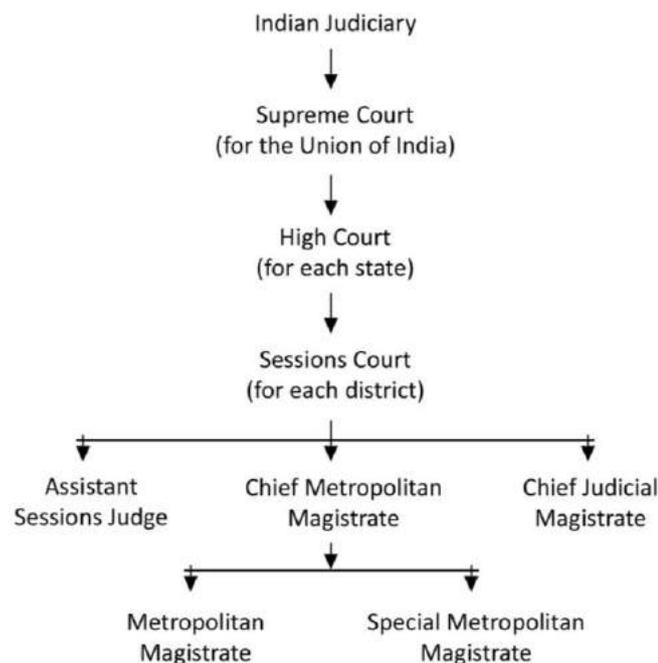
Write a letter to the editor of a newspaper drawing attention to the increasing noise pollution in your area.

Q. 5-B) Prepare a short tourist leaflet of a hill station in Maharashtra. Mention the following points in that. (04)

- 1) How to go there?
- 2) Where to stay?
- 3) Time to visit.
- 4) What to see.
- 5) Specialty of the place.

Q. 5-C) You are interviewing a famous personality of television. Prepare a set of questions which you will ask him / her. (04)

Q. 5-D) Read the following tree diagram that gives information about the judiciary system in India and prepare a short note. (04)



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BSES JUNIOR COLLEGE OF SCIENCE
VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 06/10/2014

SEMESTER I - OCTOBER 2014

Max. Marks: 50

Class: S.Y.J.C. COM/SCI

Subject: English

Time: 2 hours

Q. 1-A) Read the following passage and answer the questions given below:

(11)

The first requirement for a city is a pragmatic plan. Many of our cities such as Delhi and Bhubaneswar and even Port Blair in the Andamans have reasonably good master plans. Many also have City Development Plans which have been made an essential requirement to draw funds from the government's Urban Renewal Programme (JNNURM). But they should be updated frequently based on the changing needs of its people.

And let's not forget its citizens - they need to be more pro-actively involved when evolving master plans. But often, there's lack of planning and inadequate implementation systems. This applies to all essential components of a city — streets, public transport system, traffic management, affordable housing, cars and parking, drainage, water supply, sewerage and garbage. Any deficiency in these will lead to poor quality cities which won't be able to handle the pressures of increased population and changing needs.

The second requirement of a good city is good social infrastructure such as parks and places for leisure such as river and sea fronts. It needs to preserve and protect its heritage. We are a nation with a rich diversity in culture, arts and crafts and cities are great platforms for that, given the right facilities. And let's not forget good and affordable educational and healthcare facilities too.

1. _____ need to be pro-actively involved when evolving master plans.
(Architects, Planners, Citizens) (01)
2. What are the essential components of a city? (02)
3. Why is it necessary to update our city development plan? (02)
4. "Needs of the city people change" Do you agree? Explain. (02)
5. Rewrite the following sentences in the ways instructed:
 - (a) Their populations have surged tremendously in the last few decades.
(Add a Question Tag) (01)
 - (b) Our urban planners have perhaps not understood the nature of the modern city.
(Frame a Wh-question to get the underlined part as the answer) (01)
 - (c) It's a dense amalgamation of buildings and people.
(Rewrite using the Present Perfect Tense) (01)
6. Find words from the extract which mean: (a) ten years (b) increased (01)

Q. 1-B) Do as directed

(04)

- 1) I went to school and met headmaster.
(Insert the Articles where necessary) (01)
- 2) I spoke to Natalia _____ five _____ the evening.
(Use proper Prepositions) (01)
- 3) "Bring me the newspaper, Jack" said his father. "It is on the table."
"Yes I will" said Jack. (Change it into Indirect speech) (02)

Q. 2) Read the following passage and answer the questions given below:**(11)**

Looking back at my own life, I feel that it is the spirit with which we can accept our life gracefully is what matters ultimately; and it is love which nourishes us. All other things are unimportant. Chaitanya has made me look inwards. His handicap doesn't disturb me any longer. He and I shall live with it and still be happy. The mental strength which he has given to me is inexhaustible.

One day, as both of us got onto a public transport bus, Chaitanya offered to buy the tickets for us.

"One full, one half," he said to the conductor beaming with joy.

Looking at him, I wondered whether he was really only a half. An incomplete person? Was I really full? Complete in all respects? Why do then normal people feel that they are 'full' and others like Chaitanya are half or incomplete? Chaitanya's world is complete in itself, pure and innocent while our lives are full of deceit, jealousies and ill feelings.

His words have intrigued me ever since. Whenever I think of Chaitanya, I feel he is complete to himself although a little different from us. How could I call him only a half? The half, incomplete person was myself and not him. The distance for the bus was the same for both of us. Only the tickets were priced differently.

The day the world sees him the way I do, it will not be a one half world. It will be one full world - A world full of love, caring and sharing.

1. What do you come to know about the writer from this extract? (01)
2. Why does the writer say "His handicap doesn't disturb me any longer? (02)
3. Why does the mother consider Chaitanya's world as complete in all respects? (02)
4. What changes of attitude in the people around should take place, according to you? (02)
5. Rewrite the following sentences in the ways instructed:
 - (a) All other things are unimportant. (Rewrite as a Negative Sentence) (01)
 - (b) The mental strength which has given to me is inexhaustible. (Add a question tag) (01)
 - (c) How could I call him only a half? (Rewrite as an Assertive Sentence) (01)
6. Give the Verb forms of (a) pure (b) conductor (01)

Q. 3-A) Read the following poem and answer the questions given below.**(04)**

While I lay awake in bed,
God's still small voice came to me and said,
"While dealing with a stranger, common courtesies you use,
But the children you love, you seem to abuse.

Look on the kitchen floor,
You'll find some flowers there by the door.
Those are the flowers she brought for you.
She picked them herself: pink, yellow and blue.
She stood quietly not to spoil the surprise, and you never saw the tears in her eyes."

1. Why was the mother awake in her bed? (01)
2. Do you think the bonding between the mother and daughter was strong enough to bother for the incident? What do you learn from this? (01)
3. What is the rhyme scheme of the first stanza. (01)
4. Why did the little girl stand very quietly by the kitchen door? (01)

Q. 3-B) Read the following poem and answer the questions given below.

(04)

Old women do not fly on magic wands
nor make obscure prophecies
from ominous forests.
They just sit on vacant park benches
in the quiet evenings,
call doves by their names
and charm them with grains of maize.

Or, trembling like waves
they stand in endless queues in
government hospitals
or settle like sterile clouds
in post offices awaiting mail
from their sons abroad,
long ago dead.

1. Where are old women seen wandering? (01)
2. Why according to you, are old women seen roaming aimlessly? (01)
3. 'Settle like sterile clouds' what is the figure of speech used? (01)
4. What does the line 'from their sons abroad, long ago dead' mean? (01)

Q. 4) Read the following passage and answer the questions.

(04)

It was the last I ever saw her.
My brothers and I were transported in a cattle car to Germany.
We arrived at the Buchenwald concentration camp one night weeks later and were led into a crowded barrack. The next day, we were issued uniforms and identification numbers.
"Don't call me Herman anymore." I said to my brothers. "Call me 94983."
I was put to work in the camp's crematorium, loading the dead into a hand-cranked elevator. I, too, felt dead. Hardened, I had become a number.
Soon, my brothers and I were sent to Schlieben, one of Buchenwald's sub-camps near Berlin.
One morning I thought I heard my mother's voice.
"Son, she said softly but clearly, "I am sending you an angel."
Then I woke up. Just a dream. A beautiful dream.
But in this place there could be no angels. There was only work, hunger and fear.

Extend the extract by adding a short paragraph of your own, you may begin - "Days passed by with this same routine. Then one day . . ."

Q. 5-A) Letter Writing

(04)

- i. Read the given advertisement and prepare a letter of application:

Wanted
Sales Executive
MBA, 2-3 years experience,
Fluent in English
Write to ---
Apply to - HRD, Metro Tyres Ltd.
Metro Tower, C-49, Sector-62,
Mumbai - 400001.

OR

ii. Write a letter to the editor of a newspaper drawing his attention to the increasing noise pollution in your area.

Q. 5-B)

(1) Prepare a short tourist leaflet about a historic tourist spot, making use of the following points:

(04)

1) How to go there?

3) What to see?

2) Where to stay?

4) Anything special about the place?

OR

(2) Read the following headlines and prepare news on it - Any One

1) '2 killed, 16 injured in road accident.'

2) 'Jewellery shop looted in broad daylight.'

Q. 5-C)

1) Read the following table and prepare a Short paragraph on it.

(04)

How To Improve Your English

Reading	Storybooks (75%) Newspapers (60%)
Listening	TV News (60%) Conversation (in public places) (40%)
Speaking	With superiors (in offices, at meetings) (10%) With friends (at home, in clubs or restaurants) (20%) Conversation Classes (25%)
Writing	Official (memos, emails, faxes) (20%) Informal (letters, emails to friends) (30%)

OR

2) Write a dialogue between a doctor and his friend regarding healthy eating habits.

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VADKUN, DAHANU ROAD (W.RLY), DIST. PALGHAR, MAHARASHTRA - 401602.

Date: 17/10/2015

TERM END EXAM - OCTOBER 2015

Max. Marks: 50

Class: S.Y.J.C. COM/SCI

Subject: English

Time: 02 hours

Q. 1-A) Read the following extract and answer the questions given below : (11)

Looking back at my own life, I feel that it is the spirit with which we can accept our life gracefully is what matters ultimately; and it is love which nourishes us. All other things are unimportant. Chaitanya has made me look inwards. His handicap doesn't disturb me any longer. He and I shall live with it and still be happy. The mental strength which he has given to me is inexhaustible.

One day, as both of us got onto a public transport bus, Chaitanya offered to buy the tickets for us.

"One full, one half", he said to the conductor beaming with joy. Looking at him, I wondered whether he was really only a half? An incomplete person? Was I really full? Complete in all respects? Why do then normal people feel that they are 'full' and others like Chaitanya are half or incomplete? Chaitanya's world is complete in itself, pure and innocent while our lives are full of deceit, jealousies, ill feelings.

His words have intrigued me ever since. Whenever I think of Chaitanya, I feel he is complete in himself although a little difference from us. How could I call him only a half? The half, incomplete person was myself and not him. The distance for the bus was the same for both of us. Only the tickets were priced differently.

The day the world sees him the way I do, it will not be a one full or a one half world, it will be one full world - A world full of love, caring and sharing.

1. What do you come to know about the writer from this extract? (01)
2. Why does the writer say "His handicap doesn't disturb me any longer"? (02)
3. Why does the mother consider Chaitanya's world as complete in all respects? (02)
4. What changes of attitude in people around should take place, according to you? (02)
5. Rewrite the following sentences in the ways instructed:
 - (a) All other things are unimportant? (01)
(Rewrite as a Negative Sentence)
 - (b) The mental strength which he has given to me is inexhaustible (01)
(Add a Question Tag)
 - (c) How could I call him only a half? (01)
(Rewrite as an Assertive Sentence)
6. Give the Verb forms of: (i) pure (ii) conductor (01)

Q. 1-B) Do as Directed: (04)

- 1) There is some honey in _____ cupboard. (01)
(Use suitable articles)
- 2) The lady took the girls _____ a hall where they met a few more girls who were waiting _____ her instructions. (01)
(Fill in the blanks with appropriate prepositions)
- 3) "Why did you throw it away?" said the father to his son. "I didn't like it," said the son. (02)
(Change into indirect speech)

Q. 2-A) Read the following passage and answer the questions given below: (11)

In just a few years, 2020 will be upon us. By then, our cities will be either areas of more chaos or meaningfully planned. The choice is ours.

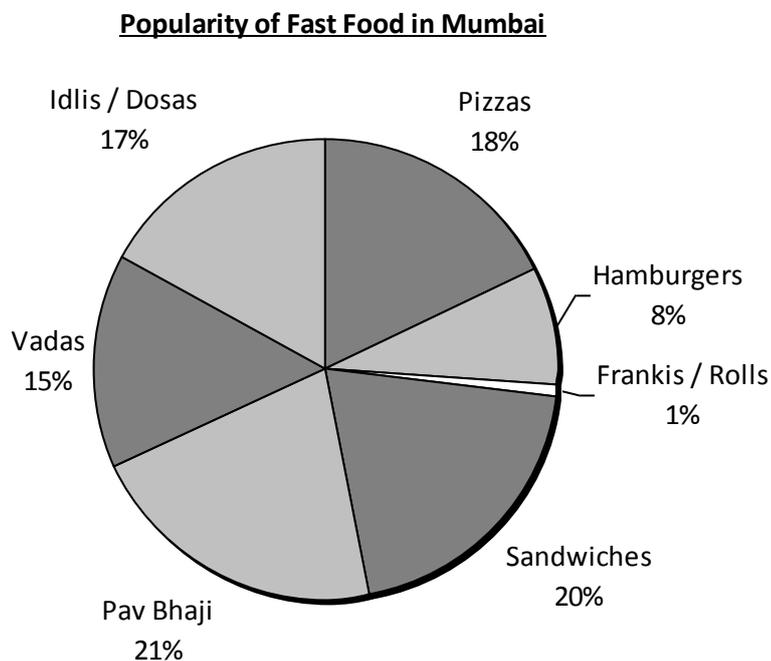
We are at a crucial juncture as far as urbanism goes. The need to work vigorously on our cities and improve them is urgent and critical. Their populations have surged tremendously in the last few decades. Delhi's population increased from 12.8m in 2001 to 16.3m in 2011. Bangalore grew from 5.7m to 8.5m during the same period.

Our urban planners have perhaps not understood the nature of the modern city; what it takes not just to run them but to make them livable. The two key requirements of a city are: provision of basic services and social infrastructure. These need to be developed together.

So what is a city? It's a dense amalgamation of buildings and people. A city must provide equity and also be sustainable. As an architect who has been closely connected with Delhi and its planning, my wish list is more about the direction we need to take so that generations don't end up living in chaotic dysfunctional cities.

1. The author says, "The choice is ours". What is this choice? (01)
2. How does the writer define a city? (02)
3. How can we make our cities livable? (02)
4. Do you think unplanned cities make the life of its people miserable? How? (02)
5. Rewrite the following sentences in the ways instructed:
 - (a) We are at a crucial juncture as far as urbanism.
(Rewrite using the Present Perfect Tense) (01)
 - (b) The need to work vigorously on our cities and improve them is urgent and critical.
(Rewrite using "Not only but also") (01)
 - (c) These need to be developed together.
(Rewrite the sentence beginning with "We") (01)
6. Write down the meaning of 'amalgamation'. (01)

Q. 2-B) The following pie-chart is based on the opinion polls conducted by Bombay Times on the popularity of fast food patronized by people. Give a verbal explanation to it. (04)



Q. 3-A) Read the following poem and answer the questions given below. (04)

While I lay awake in bed,
God's still small voice came to me and said,
"While dealing with a stranger, common courtesy you use,
But the children you love, you seem to abuse.

Look on the kitchen floor,
You'll find some flowers there by the door.
Those are the flowers she brought for you.
She picked them herself: pink, yellow and blue.
She stood quietly not to spoil the surprise, and you never saw the tears in her eyes."

1. Why was the mother awake in her bed? (01)
2. Do you think the bonding between the mother and daughter was strong enough to bother for the incident? What do you learn from this? (01)
3. What is the rhyme scheme of the first stanza. (01)
4. Why did the little girl stand very quietly by the kitchen door? (01)

Q. 3-B) Read the following extract and answer the questions given below: (04)

I celebrate the virtues and vices
of suburban middle-class people
who overwhelm the refrigerator
and position colourful umbrellas

near the garden that longs for a pool:
for my middle class brother
this principle of supreme luxury,

What are you and what am I, and we go on deciding
the real truth in this world.

- 1) What does the poet celebrate? (01)
- 2) How do you form opinion about somebody? (01)
- 3) Identify an example of Paradox from the poem. (01)
- 4) Pick out the line which means the middle class people imitate the rich. (01)

Q. 4) Read the following extract. (04)

It was the last I ever saw her.

My brothers and I were transported in a cattle car to Germany.

We arrived at the Buchenwald concentration camp one night weeks later and were led into a crowded barrack. The next day, we were issued uniforms and identification numbers.

"Don't call me Herman anymore." I said to my brothers. "Call me 94983."

I was put to work in the camp's crematorium, loading the dead into a hand-cranked elevator. I, too, felt dead. Hardened, I had become a number.

Soon, my brothers and I were sent to Schlieben, one of Buchenwald's sub-camps near Berlin.

One morning I thought I heard my mother's voice.

"Son, she said softly but clearly, "I am sending you an angel."

Then I woke up. Just a dream. A beautiful dream.

But in this place there could be no angels. There was only work, hunger and fear.

Extend the extract by adding a short paragraph of your own, you may begin - "Days passed by with this same routine. Then one day . . .

Q. 5-A) 1) Write a letter to the editor of a newspaper focusing on the problem of absence of proper footpath in your locality. **(04)**

OR

2) Read the following advertisement and prepare a letter of application in response to it.



Q. 5-B) Prepare a paragraph with an appropriate title to be used for counterview section on the following topic; "Should New Year Resolutions be made." Take the help of the view-section points. **(04)**

View-Section

New Year Resolutions are made for self improvement ---

- i. An aimless life could turn out to be chaotic.
- ii. Some good is bound to come.
- iii. A fresh start in life.
- iv. Could remove unhappiness in life.

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SEAT NO. Supervisor's					

Signature

DNYAN BHARTI SOCIETY'S

SAU. SITABAI RAMKRUSHNA KARANDIKAR SENIOR COLLEGE OF COMMERCE
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 VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 05/11/2018

FIRST TERM EXAM – NOV 2018

Max. Marks: 25

Class: S.Y.J.C. COM / SCI

Subject: Health & Physical Education

Time: 1 hour

Roll No. / Name: _____ / _____	Class: _____	Div: _____
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Q. 1 - A) Fill in the blanks (02)

- 1) Proper start, follow up run and proper landing in the pit is necessary in_____.
- 2) There are _____cross lanes which lie across the small squares in Kho-Kho.
- 3) Euro cup 2008 was won by_____.
- 4) The first hockey club came up in _____ in 1885-86 in India.

Q. 1 - B) Match the following (02)

GROUP – A

- 1) WHR ()
- 2) Milkha Singh ()
- 3) Major Dhayanchand ()
- 4) P. V. Sindhu ()

GROUP - B

- A) Badminton
- B) Waist Hip Ratio
- C) Flying Sikh
- D) Hockey Wizard
- E) Tennis

Q. 1 - C) True or False (02)

- 1) Virat Kohli is related to hockey ()
- 2) The measurement of Volley Ball ground is 15 x 20 m. ()
- 3) Sachin Tendulkar has received Bharat Ratna award. ()
- 4) Patanjali Muni was founder of Yoga. ()

Q. 2) Answer in one sentence (05)

- 1) What do you mean by Speed?

Ans: _____

- 2) What are the factors of motor skills?

Ans: _____

- 3) Which club played Kho-Kho demonstration game at international level?

Ans: _____

- 4) When was volleyball introduced in Olympics?

Ans: _____

- 5) Name the skills in cricket?

Ans: _____

Q. 3) Define the following (Any Two)

(04)

1) Pranayam

Ans: Pranayam is a Sanskrit word which refers to breath control. It implies a set of breathing techniques where the breath is intentionally altered in order to produce specific results.

2) Co-ordination

Ans: Coordination refers to the ability to use different parts of the body together smoothly and efficiently.

3) Asana

Ans: An asana is a body posture, originally sitting for meditation. It can be defined as "to be seated in a position that is steady but relaxed".

Q. 4) Write Short Notes (Any Two)

(04)

1) Circuit Training

Ans: Circuit Training involves performing a series of strength training exercises with less than the normal amount of rest. There are many ways to design a circuit. You could pick ten exercises and do one set of each without rest. The main objective is to do more work in less time than one would do in a normal weight training session. It helps in increasing work capacity, increases cardiovascular fitness, increase strength, helps in building strong muscles, etc.

2) First Aid for Joint Dislocation

Ans: First aid refers to the emergency or immediate care you should provide when a person is injured or ill until full or professional medical treatment is available. A dislocation occurs when a bone slips out of a joint. First Aid for Joint Dislocation includes:

1. Immobilising the dislocated joint. Do not attempt to put back the joint yourself.
2. Apply ice-pack over the dislocated joint to reduce swelling.
3. Put the victim in a comfort position and wait till professional medical help arrives.

3) How to prevent obesity?

Ans: Obesity is a medical condition in which excess body fat has accumulated to an extent that it may have a negative effect on health. It is caused due to over-eating, inactive lifestyle, smoking, etc. It can be prevented by a healthy diet, eating more fruits and vegetables, exercising for at least 30 minutes a day, etc.

Q. 5) Draw and label the figure of a ground of any team game

(06)

SEAT NO.					

Supervisor's Signature

DNYAN BHARTI SOCIETY'S

SAU. SITABAI RAMKRUSHNA KARANDIKAR SENIOR COLLEGE OF COMMERCE
LATE MEHERNOSH BOMAN BURJOR IRANI COLLEGE OF ARTS & BSES JUNIOR COLLEGE OF SCIENCE
VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 05/11/2018

FIRST TERM EXAM – NOV 2018

Max. Marks: 25

Class: S.Y.J.C. COM / SCI

Subject: Health & Physical Education

Time: 1 hour

Roll No. / Name: _____ / _____ Class: _____ Div: _____**Q. 1 - A) रिक्त स्थानांची पुरती करा (02)**

- 1) लघु अंतराच्या स्पर्धेत _____ अचूक असणे महत्वाचे असते.
- 2) _____ हा पायाच्या स्नायूंची ताकद वाढवण्याचा व्यायाम प्रकार आहे.
- 3) युरो कप २००८ _____ या देशाने जिंकला.
- 4) भारतात सर्व प्रथम हॉकी क्लबची स्थापना _____ येथे झाली.

Q. 1 - B) खालील जोड्या जुळवा (02)

- | ग्रुप - ए | | ग्रुप - बी |
|------------------|-----|------------------------|
| 1) WHR | () | A) बॅडमिंटन |
| 2) मिल्खा सिंग | () | B) कंबर नितंब गुणोत्तर |
| 3) मेजर ध्यानचंद | () | C) पवनपुत |
| 4) पी.वी.सिंधू | () | D) हॉकीचे जादूगर |
| | | E) बॉक्सिंग |

Q. 1 - C) चूक किंवा बरोबर (02)

- 1) विराट कोहली हॉकी खेळ खेळतो. ()
- 2) व्हॉलीबॉल खेळाच्या मैदानाचे माप १५ x २० मीटर असते. ()
- 3) सचिन तेंडूलकर यांना भारतरत्न हा पुरस्कार देण्यात आला आहे. ()
- 4) पतंजली मुनी योगाचे जनक आहेत. ()

Q. 2) एका वाक्यात उत्तर द्या (05)

1) गती म्हणजे काय?

उत्तर: _____

2) कारक सुदृढतेचे घटक सांगा.

उत्तर: _____

3) आंतरराष्ट्रीय स्तरावर कोणत्या संस्थेने खो-खो चे प्रदर्शन केले?

उत्तर: _____

4) व्हॉलीबॉल खेळाचा समावेश कोणत्या ऑलिम्पिक स्पर्धेत केला गेला?

उत्तर: _____

5) क्रिकेट खेळातील कौशल्य कोणती ते सांगा?

उत्तर: _____

Q. 3) खालील परिभाषित करा (कोणताही दोन)

(04)

1) प्राणायाम

उत्तर: _____

2) समन्वय

उत्तर: _____

3) आसन

उत्तर: _____

Q. 4) लघु नोट्स लिहा (कोणतेही दोन)

(04)

1) सर्किट ट्रेनिंग.

उत्तर: _____

2) सांधा निखळणे यावर प्रथमोपचार.

उत्तर: _____

3) स्थूलता कमी करण्याचे उपाय.

उत्तर: _____

Q. 5) कोणत्याही एका सांघिक खेळाच्या मैदानाची आकृती काढून योग्य नावे द्या.

(06)

Q. 2-A) Answer the questions - Any Four (04)

- 1) What is diapodesis?
- 2) What is gout?
- 3) Mention the components of urine.
- 4) Name the cells which produce thrombocytes.
- 5) Give the name of ear ossicles.
- 6) What is commensalism?

Q. 2-B) Draw a neat labeled diagram of Malpighian body. (02)

Q. 2-C) Attempt the questions - Any One (02)

- 1) Explain how natality and mortality are calculated.
- 2) Write a note on pericardium.
- 3) Describe any one hormone of Neurohypophysis.
- 4) Write a note on kidney stones.

Q. 3) Answer the questions - Any One (03)

- 1) Describe in detail the composition of human blood.
- 2) Describe the structure of Nephron.
- 3) "Industries are pouring poison in water", explain.
- 4) Explain the structure of cerebrum.

Q. 4) Define excretion and explain mechanism of urine formation with diagram. (07)

OR

- A. Define reflex action and explain the five elements of reflex arc? (04)**
- B. "Deforestation and endangered species go hand in hand", comment. (03)**

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SAU. SITABAI RAMKRUSHNA KARANDIKAR SENIOR COLLEGE OF COMMERCE

LATE MEHERNOSH BOMAN BURJOR IRANI COLLEGE OF ARTS

BSES JUNIOR COLLEGE OF SCIENCE

VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 11/10/2014

Terminal Examination - OCTOBER 2014

Max. Marks: 50

Class: S.Y.J.C. SCI

Subject: Biology

Time: 2.5 hours

PAPER - I

Q. 1) Select and write the appropriate answer from the given alternatives: (06)

- 1) When two genes control single character and have cumulative effect the ratio is _____.
(a) 1:1:1:1 (b) 1:4:6:4:1 (c) 1:2:1 (d) 1:6:15:20:15:6:1
- 2) In *Pisum sativum* which of the following traits is dominant?
(a) White flowers (b) Green seeds (c) Yellow Pods (d) Inflated pods
- 3) Process of bringing wild species of plants under human management is called _____.
(a) selection (b) introduction (c) Plumule (d) Endosperm
- 4) Albumin is also known as _____.
(a) Perisperm (b) Synergids (c) Plumule (d) Endosperm
- 5) The endosperm cells in an Angiospermic plant has 18 chromosomes, the number of chromosomes in its root cells will be _____.
(a) 12 (b) 6 (c) 18 (d) 24
- 6) The internal source of CO₂ in CAM plants is _____.
(a) Oxalo-acetic acid (b) Malic acid (c) RUBP (d) PEPA

Q. 2-A) Answer in one sentence: (06)

- 1) What are Cytochromes?
- 2) How many NADPH₂ and ATP are required for synthesis of one molecule of glucose?
- 3) What is the common method of Propagation in *Bryophyllum*?
- 4) Name the nuclei taking part in triple fusion.
- 5) Test cross is a backcross but backcross is not necessary a testcross.
- 6) Give the name of a secondary metabolite with its plant source.

Q. 2-B) Attempt ANY THREE questions: (06)

- 1) Draw a neat labeled diagram of chloroplast.
- 2) Write schematic representation of cyclic photophosphorylation.
- 3) Distinguish between Self and Cross Pollination.
- 4) Enlist the application of tissue culture.

Q. 3) Attempt ANY ONE question: (07)

- 1) Describe the development of embryo in angiosperms with diagram.
- 2) What is dihybrid cross? Explain with suitable example and checker board method.
- 3) Describe C₄ pathways with schematic representation.

PAPER - II

- Q. 1) Select and write the appropriate answer from the given alternatives: (06)**
- 1) Sex determination in human being is _____.
(a) XX-XY type (b) XX-XO type (c) XXY-XO type (d) XY-XX type
 - 2) The sister chromatids are held together by _____.
(a) centrioles (b) chromomerc (c) chromonemata (d) centromerc
 - 3) Osmoregulation is carried out by _____.
(a) vreter (b) nephron (c) ACTH (d)ADH
 - 4) Retroperitoneal kidney is _____.
(a) Peritoneum on anterior side (b) Peritoneum on posterior
(c) Absence of Peritoneum (d) Peritoneum on both anterior & posterior side
 - 5) Antrio-ventricular node is located in _____.
(a) left atrium (b) left ventricle (c) right atrium (d) right ventricle
 - 6) The covering of heart is _____.
(a) Perichondrium (b) Pericardium (c) Peristeum (d) Peritoneum

- Q. 2-A) Answer in one sentence: (06)**
- 1) Why does the left ventricle possess thicker wall than the right ventricle?
 - 2) Which structure in heart is called pacemaker?
 - 3) What is gout?
 - 4) Why is structural and functional unit of kidney?
 - 5) What are sex-linked gene?
 - 6) What is criss-cross inheritance?

- Q. 2-B) Attempt ANY THREE questions: (06)**
- 1) Draw a neat labeled diagram of V.S. of kidney.
 - 2) Explain the haplo-diploid sex determination with example.
 - 3) Distinguish between artery and vein.
 - 4) Write a note on ECG.

- Q. 3) Attempt ANY ONE question: (07)**
- 1) Give an account of Lymphatic system of man.
 - 2) Describe malpighian body with diagram and explain its role in urine formation.
 - 3) What is haemophilia? Explain its inheritance with help of suitable chart.

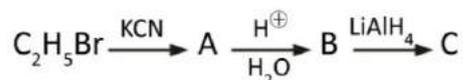
----- ALL THE BEST -----

SECTION - II

Q. 1) Select and write the most appropriate answers of the following questions

(05)

- 1) In carbocation, the central carbon atom involves _____.
a) sp hybridised
b) sp^2 hybridised
c) sp^3 hybridised
d) sp^3d hybridised
- 2) The C-O-C bond angle in ether is _____.
a) 180
b) 90
c) 104.5
d) 109.5
- 3) Identify C in the following reaction.



- a) Propane - 1 - ol
b) Propanone
c) 2-ethyl-3-pentanone
d) propanal
- 4) What is the general formula of trisaccharide?
a) $C_{18}H_{30}O_{14}$
b) $C_{18}H_{32}O_{16}$
c) $C_{18}H_{34}O_{18}$
d) $C_{18}H_{36}O_{18}$
- 5) The hydrolysis product of alkyl cyanide is _____.
a) Primary amine
b) amides
c) aldehyde
d) carboxylic acid

Q. 2) Attempt the following - Any Five

(10)

- 1) Write the preparation of isopropyl chloride using the following reagents.
(a) PCl_3 (b) Cl_2
- 2) How is carboxylic acid prepared from isopropyl benzene?
- 3) What is the action of NH_3 molecule on propan-2-one?
- 4) Write a short note on silver mirror test.
- 5) Write the structure of DNA.
- 6) What is the action of following reagents on glucose?
(a) NH_2OH (b) acetic anhydride

Q. 3) Attempt the following - Any Two

(06)

- 1) What are proteins?
- 2) What happens when propan-2-one react with the following:
(a) mg metal (b) Zn-Hg / Conc. HCL (c) Phenylhydrazine
- 3) What happens when phenol is treated with:
(a) Bromine water
(b) $CHCl_3$ & aq. NaOH
(c) Zn dust

Q. 4) What happens when:

(04)

- 1) Ethanal treated with dil. NaOH
- 2) Propan-2-one with methyl magnesium iodide
- 3) Glucose treated with dil. Nitric acid
- 4) Acetaldehyde with phenyl hydrazine

----- ALL THE BEST -----

Date: 09/10/2014

SEMESTER I - OCTOBER 2014

Max. Marks: 50

Class: S.Y.J.C. SCI

Subject: Chemistry

Time: 2.5 hours

Q. 1) M.C.Q. (10)

- 1) For a chemical reaction, $\Delta S = -0.035 \text{ KJ/K}$ & $\Delta H = -20 \text{ KJ}$. At what temperature does the reaction turn non-spontaneous?
(a) 5.14K (b) 57.14K (c) 571.4K (d) 5714.0K
- 2) All irreversible processes are _____.
(a) non-spontaneous (b) in equilibrium (c) Isothermal (d) spontaneous
- 3) A molal solution is the one that contains one mole of solute in _____.
(a) 1L of the Solvent (b) 1000 gm of the solvent (c) 1L of the Solⁿ. (d) 22.4L of the Solⁿ.
- 4) The order of reactivities of the following alkyl halides for a SN² reaction is _____.
(a) RF > RCl > RBr > RI (b) RF > RBr > RCl > RI
(c) RCl > RBr > RF > RI (d) RI > RBr > RCl > RF
- 5) Hybridisation of Oxygen atom in alcohol is _____.
(a) SP³ (b) SP² (c) SP (d) SP³d
- 6) Which of the following solution shows maximum depression in freezing point?
(a) 0.5 M Li₂SO₄ (b) 1M NaCl (c) 0.5M Al₂(SO₄)₃ (d) 0.5M BaCl₂
- 7) Lucas test is used to distinguish between _____.
(a) 1^o, 2^o & 3^o alcohol (b) 1^o, 2^o & 3^o amines
(c) Aldehydes & Ketones (d) Alkenes & Alkynes
- 8) IUPAC name of α, β dimethyl butyraldehyde is _____.
(a) 1, 2 dimethyl butanal (b) 2, 3 dimethyl butanal
(c) 2, 3 dimethyl butanol (d) 1, 2 dimethyl butanone
- 9) The reagent used to convert a carbonyl compound into an oxime is _____.
(a) hydrazine (b) Phenyl hydrazine (c) hydroxyl amine (d) Sodium bisulphate
- 10) Which of the following does not reduce Fehling's solution _____.
(a) Glucose (b) Fructose (c) Sucrose (d) Aldehyde

Q. 2) Attempt ANY EIGHT of the following: (16)

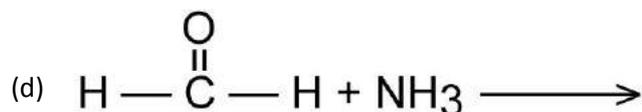
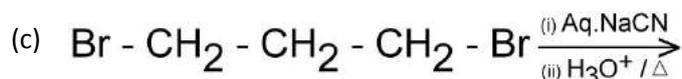
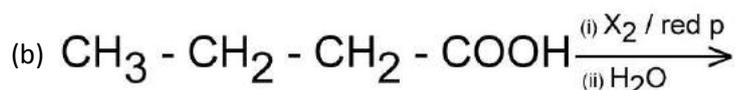
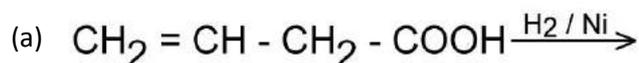
- 1) Derive the expression for work when a gas expands against constant external pressure.
- 2) What is molal elevation constant? What is its unit?
- 3) Derive the relation between depression in freezing point and molar mass of the solute.
- 4) What happens when ethyl bromide treated with aq.KOH & alc.KOH?
- 5) How is carboxylic acid prepared from isopropyl benzene?
- 6) Write any four uses of Phenol.
- 7) What happens when ethanal is treated with (a) Na-Hg & H₂O (b) Zn-Hg & HCl.
- 8) Give a chemical test to distinguish the following pair of compounds: Ethanal & Propanone
- 9) How is glucose prepared from starch?
- 10) What is peptide linkage? How it is prepared?

Q. 3) Attempt ANY FOUR of the following: (12)

- 1) What is the action of acidified potassium dichromate on:
(a) Propan-1-ol (c) 2-methyl-propan-2-ol
(b) Propan-2-ol
- 2) How will you effect following two step conversions?
(a) Propanal into butanone
(b) Butanone into But-2-ene
- 3) What are proteins? Draw the structure of Sucrose.
- 4) Aq. Solution of NaOH is marked 10%. The density of the solution is 1.070g/cm³. Calculate:
(i) Molarity (ii) Molality
- 5) Three moles of an Ideal gas are compressed isothermally & reversibly to a volume 2L. The work done is 2.983 KJ at 22°C. Calculate the initial volume of the gas.

Q. 4) Attempt ANY THREE of the following: (12)

- 1) State & explain Raoult's Law for Volatile compounds. The vapour pressure of solution at given temperature containing 72gm of solute in 1000 gm of water is 600.5 N/m² while that of pure water is 614.8 N/m² at the same temperature. Calculate molecular weight of solute.
- 2) Write the mechanism of Methyl Bromide using aq. KOH. Draw energy profile diagram.
- 3) (a) Write the following conversion:
(i) Phenol to Picric Acid (ii) Propane to propan-2-ol
(b) How will you prepare methoxyethane from:
(i) Alkyl halide (ii) Diazomethane
- 4) Predict the products in the following reactions:



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BSES JUNIOR COLLEGE OF SCIENCE

VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 28/10/2013

FIRST TERM END EXAM - OCTOBER 2013

Max. Marks: 50

Class: S.Y.J.C. (SCI)

Subject: Geography

Time: 02 hours

Q. 1-A) Fill in the blank with appropriate alternative given in the bracket and rewrite the sentence (06)

- 1) In Europe _____ race is predominantly found.
(Australoids, Negroids, Caucasoid, Mongoloids)
- 2) _____ is classified on the basis of Motivation, Distance, Time and Area.
(Marriage, Employment, Migration, Education)
- 3) _____ agriculture is called as 'Oriental' agriculture.
(Extensive, Intensive, Horticulture, Plantation)
- 4) _____ is the largest Uranium mine in the world.
(Akokon, Weipa, McArthur River, Safania)
- 5) 'Audi' is the best known production from _____ industrial region.
(Central Europe, N.E.USA, Eastern part of Asia)
- 6) The largest reserves of natural gas are found in _____.
(Qatar, Russia, USA, Venezuela)

Q. 1-B) Match the words from column 'A' with appropriate words from column 'B' (04)

A		B	
1	Negroids	a	Long term motive based migration
2	Attractive jobs	b	Pitchblende
3	Coffee cultivation in Brazil	c	Pyrolusite
4	Uranium	d	Fazendas
		e	Sahara

Q. 2-A) Choose the correct alternative answer for each of the following and rewrite the sentence (02)

- 1) In sugar production, beet is a more important raw material than sugarcane because _____.
(a) beet can be preserved for a long time.
(b) beet are easy to carry.
(c) bagasse are remaining in large quantity from sugarcane.
(d) none of the above ones.

- 2) In Demographic Transition Theory, Stage 4 shows _____.
(a) declining birth rate
(b) low birth rate and death rate
(c) low death rate and fall in birth rate
(d) death rate fall and high birth rate.

Q. 2-B) Explain the following terms - Any Four **(08)**

- 1) Growth of population
- 2) Birth rate
- 3) Seasonal migration
- 4) Fazendus
- 5) OPEC
- 6) Hub

Q. 3) Give geographical reasons - Any Three **(06)**

- 1) Raw material affects location of industries.
- 2) China is the biggest importer of metallic minerals.
- 3) Mountains are thinly populated.
- 4) Rice cultivation is concentrated in Asian countries.

Q. 4) Write Short Notes on the following - Any Two **(06)**

- 1) Horticulture in the world
- 2) Demographic Transition model
- 3) Uses of aluminium
- 4) Mumbai - Pune region

Q. 5) Write answers of the following questions in 12 to 15 lines - Any Two **(10)**

- 1) What is industrial region? What are the major factors that influence the growth of industrial region?
- 2) Why Panama Canal is known as 'Gateway to Pacific'?
- 3) Write in brief the geographical conditions required for sugarcane cultivation and major producing countries in the world.

Q. 6) Give answers of the following - Any One **(08)**

- 1) Explain the role of minerals in the economic development of any country.
- 2) Explain with examples the factors affecting industrial location.

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LATE MEHERNOSH BOMAN BURJOR IRANI COLLEGE OF ARTS

BSES JUNIOR COLLEGE OF SCIENCE

VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 21/10/2013

FIRST TERM END EXAM - OCTOBER 2013

Max. Marks: 50

Class: S.Y.J.C. (SCI)

Subject: Mathematics

Time: 2.5 hours

SECTION - A

Q. 1) Select and write the correct answer from the given alternatives in each question (04)

1) $\cos [\sin^{-1}(1) + \tan^{-1}(\frac{1}{\sqrt{3}})] = \underline{\hspace{2cm}}$.

(a) $\frac{1}{2}$

(c) $-\frac{\sqrt{3}}{2}$

(b) $\frac{\sqrt{3}}{2}$

(d) $-\frac{1}{2}$

2) The converse of the contrapositive of $\sim p \rightarrow q$ is .

(a) $q \rightarrow p$

(c) $p \rightarrow \sim q$

(b) $\sim q \rightarrow p$

(d) $\sim q \rightarrow \sim p$

Q. 2) Attempt the following - Any Four (08)

1) Find the value of b, if θ is measure of angle between the lines $3x^2 + 4xy + by^2 = 0$ and $\tan \theta = \frac{1}{2}$

2) Find inverse of the matrix $\begin{bmatrix} \cos \alpha & \sin \alpha \\ -\sin \alpha & \cos \alpha \end{bmatrix}$

3) Write negation of the following statement and write equivalent statement after simplification
 $(p \vee \sim q) \wedge r$

4) Find the principal solution of $\tan \chi = -\sqrt{3}$

5) Find the separate equations of lines represented by the following equation: $2x^2 + 2xy - y^2 = 0$

Q. 3) Attempt the following - Any Three (09)

1) Find the value of k, if the equation $3x^2 + 10xy + 3y^2 + 16y + k = 0$ represents a pair of lines.
Further find whether lines are parallel or intersecting.

2) Find the inverse of matrix by using adjoint method $\begin{bmatrix} 7 & -6 & -2 \\ -18 & 16 & 5 \\ -10 & 9 & 3 \end{bmatrix}$

3) In any triangle ABC prove that $\tan\left(\frac{B-C}{2}\right) = \left(\frac{b-c}{b+c}\right) \cot \frac{A}{2}$

4) Using truth table, prove that $p \leftrightarrow q \equiv \sim(p \wedge \sim q) \wedge \sim(q \wedge \sim p)$

Q. 4) Attempt the following - Any One**(04)**

- Express the following equations in matrix form and solve them by method of reduction.
 $2x - y + z = 1$, $x + 2y + 3z = 8$, $3x + y - 4z = 1$
- Show that $\tan^{-1}(1/5) + \tan^{-1}(1/7) + \tan^{-1}(1/3) + \tan^{-1}(1/8) = \pi/4$

SECTION -B**Q. 1) Select and write the correct answer from given alternatives****(04)**

- If $x = e^{\log(\cos 4\theta)}$, $y = e^{\log(\sin 4\theta)}$ then dy/dx is _____.
 (a) $-x/y$ (b) x/y (c) y/x (d) $\sqrt{y/x}$
- $\int \frac{dx}{2x - 2\sqrt{x}}$ = _____.
 (a) $\log |3x - 2\sqrt{x}| + C$ (c) $\log |3x - 2| + C$
 (b) $2/3 \log |3x| - 3/2 \log |x| + C$ (d) $2/3 \log |3\sqrt{x} - 2| + C$

Q. 2) Attempt the following - Any Four**(08)**

- Find approximate value of $e^{1.002}$ given that $e=2.7183$
- If $y = \tan(xe^x)$, find dy/dx
- The displacement 's' of a particle at time 't' is given by $s=2t^3-5t^2+4t-3$. Find the time when acceleration is 14 ft/sec^2 .
- Differentiate w.r.t. x $e^x + x^{\sin x}$
- Integrate the following w.r.t x $\cos 5x \cdot \cos 3x$

Q. 3) Attempt the following - Any Three**(09)**

- Discuss the continuity of the following function as shown against them:

$$f(x) = \left. \begin{array}{l} \frac{\log(2+x) - \log(2-x)}{\tan x}; \text{ for } x \neq 0 \\ = 1; \text{ for } x = 0 \end{array} \right\} \text{ at } x=0$$
- Differentiate with respect to x $y = \sin^{-1}\left(\frac{3x + 4\sqrt{1-x^2}}{5}\right)$
- Integrate the following w.r.t. x $\sin(\log x)$
- If $x^5 y^7 = (x+y)^{12}$, prove that $dy/dx = y/x$

Q. 4) Attempt the following - Any One**(04)**

- If $y = (x + \sqrt{x^2 - 1})^m$ show that $(x^2 - 1) \frac{d^2y}{dx^2} + x \frac{dy}{dx} = m^2 y$
- If a function f is continuous at $x=0$ where
 $f(x) = \frac{\sin 3x}{5x} + a$, for $x < 0$
 Find the value of $a+b$.
 $= x+4 - b$, for $x \geq 0$

----- **ALL THE BEST** -----

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SAU. SITABAI RAMKRUSHNA KARANDIKAR SENIOR COLLEGE OF COMMERCE

LATE MEHERNOSH BOMAN BURJOR IRANI COLLEGE OF ARTS

BSES JUNIOR COLLEGE OF SCIENCE

VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 11/10/2014

SEMESTER I - OCTOBER 2014

Max. Marks: 50

Class: S.Y.J.C. SCI

Subject: Mathematics

Time: 2.5 hours

SECTION - A

Q. 1) Choose the correct alternative for the following: (04)

1) The cartesian co-ordinates of a point, whose polar coordinates are $(2, \pi/4)$ is _____.

- (a) (2, 2) (b) (2, -2) (c) $(\sqrt{2}, \sqrt{2})$ (d) $(-\sqrt{2}, -\sqrt{2})$

2) The combined equation of the lines passing through origin and having inclinations $\pi/3$ and $5\pi/3$ is _____.

- (a) $3y^2 - x^2 = 0$ (b) $3x^2 - y^2 = 0$ (c) $2y^2 - 3x^2 = 0$ (d) $3x^2 - 2y^2 = 0$

Q. 2) Solve ANY FOUR: (08)

1) Find the joint equation of lines passing through (1, 2) and parallel to co-ordinate axes.

2) Transform the following statements in symbolic form:

(a) A triangle is equilateral if and only if it is equiangular.

(b) Mango is a fruit but potato is a vegetable.

3) Solve the following equations by reduction method: $x + 3y = 2$; $3x + 5y = 4$

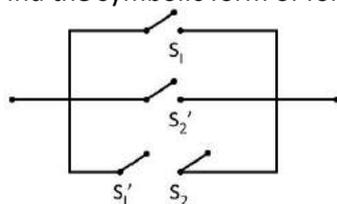
4) Show that $\tan^{-1}(1/2) + \tan^{-1}(2/11) = \tan^{-1}(3/4)$

5) Find the general solutions of equation $\sqrt{3} \operatorname{cosec} x = 2$

Q. 3) Solve ANY THREE: (09)

1) Find the inverse of $A = \begin{bmatrix} 3 & 2 & 6 \\ 1 & 1 & 2 \\ 2 & 2 & 5 \end{bmatrix}$ by using elementary row transformation.

2) Find the symbolic form of following switching circuit, construct its switching table:



3) Show that $\sin A/2, \sin B/2, \sin C/2 = [A(\triangle ABC)]^2 / abc$

4) If one of the lines given by $ax^2 + 2hxy + by^2 = 0$ bisects an angle between the co-ordinate axes then show that $(a+b)^2 = 4h^2$

Q. 4) Solve ANY ONE: (04)

1) In any $\triangle ABC$, prove that $\tan(B-C/2) = (b-c/b+c)\cot A/2$

2) Find p and q if the equation $px^2 - 8xy + 3y^2 + 14x + 2y + q = 0$ represents a pair of perpendicular lines.

SECTION - B

Q. 1) Choose the correct alternative for the following: (04)

- 1) If the function $f(x) = x^{n-1} / x-1$ for $x \neq 1$ is continuous at $x=1$, then $f(1) = \underline{\hspace{2cm}}$.
(a) n^2+n (b) $[n/2(n+1)]^2$ (c) n^2-n (d) n
- 2) If $f(x) = x \log x$, then maximum value of $f(x)$ is $\underline{\hspace{2cm}}$.
(a) $1/e$ (b) $-e$ (c) $-1/e$ (d) e

Q. 2) Solve ANY FOUR: (08)

- 1) Find approximate value of $\sqrt{8.95}$
2) if $x = \sin^{-1}(2\theta/1+\theta^2)$; $y = \sec^{-1}(\sqrt{1+\theta^2})$ find the value of dy/dx .
3) Examine the continuity of the following functions at given point:

$$\left. \begin{array}{l} f(x) = \frac{\log x - \log 7}{x-7} ; \text{ for } x \neq 7 \\ = 7 \qquad \qquad \qquad \text{for } x = 0 \end{array} \right\} \text{ at } x = 7$$

- 4) Integrate the function w.r.t. x $\sqrt{1 + \sin x}$
5) Differentiate $7^{x+1/x}$ with respect to x .

Q. 3) Solve ANY THREE: (09)

- 1) If $y = (x + \sqrt{x^2-1})^m$ show that:

$$(x^2 - 1) \frac{d^2y}{dx^2} + x \frac{dy}{dx} = m^2y$$

- 3) Verify LMVT for the following functions: $f(x) = x(2-x)$; $x \in [0,1]$

- 4) Function $f(x)$ defined as:

$$\begin{aligned} f(x) &= a + x; & x < 0 \\ &= x & ; & 0 \leq x < 1 \\ &= b - x; & x \geq 1 \end{aligned}$$

is continuous in its domain, find $a+b$.

- 4) Differentiate $\tan^{-1} \left[\frac{\sqrt{1+x^2}-1}{x} \right]$ w.r.t. $\tan^{-1} \left[\frac{2x\sqrt{1-x^2}}{1-2x^2} \right]$

Q. 4) Solve ANY ONE: (04)

- 1) A rectangular sheet of paper has area 24 sq.mtr. The margin at top and bottom is 75cms and sides 50cms each. What are the dimensions of paper if area of printed space is maximum.

- 2) If $f(x) = \frac{1 - \tan x}{1 - \sqrt{2} \sin x}$ for $x \neq \frac{\pi}{4}$ is continuous
at $x = \frac{\pi}{4}$; find $f\left(\frac{\pi}{4}\right)$

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BSES JUNIOR COLLEGE OF SCIENCE

VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 24/10/2013

FIRST TERM END EXAM - OCTOBER 2013

Max. Marks: 50

Class: S.Y.J.C. (SCI)

Subject: Physics

Time: 2.5 hours

Instructions:

- 1) All questions are compulsory.
- 2) Draw diagrams wherever necessary.
- 3) Use of log table is allowed.

Q. 1) Select and write the most appropriate answers of the following questions

(07)

- 1) The Centripetal acceleration of bob of a conical pendulum is _____.
(a) $\frac{rg}{\cos\theta}$ (b) $\frac{rg}{L}$ (c) $\frac{g}{L}$ (d) $\frac{rg}{L\cos\theta}$
- 2) The maximum velocity of particle performing linear SHM is 0.32 m/s and its maximum acceleration is 2.56 m/s². The amplitude of SHM is _____.
(a) 0.02 m (b) 0.03 m (c) 0.04 m (d) 0.05 m
- 3) The critical orbital speed of a satellite in a near earth orbit is about [R = 6,400 km] _____.
(a) 250 m/s (b) 8 km/s (c) 11 km/s (d) 250 km/s
- 4) Polarisation of light cannot be produced by _____.
(a) reflection (b) double refraction (c) dichroism (d) diffraction
- 5) The bending of waves at an edge into the region of the geometrical shadow is called _____.
(a) birefringence (b) destructive interference (c) refraction (d) diffraction
- 6) One farad is _____.
(a) 1 J/C (b) 1 C²/J (c) 1 J/C² (d) 1 V/C
- 7) Kirchoff's Junction Law is equivalent to _____.
(a) conservation of energy (b) conservation of charge (c) conservation of electric potential (d) conservation of electric flux

Q. 2) Attempt the following - Any Six**(12)**

- 1) Calculate the angular speed of the earth due to its spin (rotational motion).
- 2) Define the moment of inertia and write dimension of it.
- 3) What is meant by damped oscillation and draw its diagram.
- 4) The frame of the brass plate of an outer door design has area 1.60 m^2 and thickness 1 cm. The brass plate experiences a shear force due to earthquake. How large a parallel force must be exerted on each of its edges, if the lateral displacement is 0.32 mm $[\eta_{\text{brass}} = 3.5 \times 10^{10} \text{ N/m}^2]$
- 5) The wavelength of a certain blue light in air and in water are 4800 \AA and 3600 \AA respectively. Find the corresponding Brewster's angle.
- 6) Draw a neat labeled diagram of Young's Double Slit experiment.
- 7) A $10 \mu\text{F}$ capacitor is connected to 100 V battery. What is electrostatic energy stored in the capacitor?
- 8) Define Surface Tension and find its dimension.

Q. 3) Attempt the following - Any Five**(15)**

- 1) Define Binding Energy of Satellite. Hence obtain an expression for Binding Energy of Satellite revolving around the earth at a certain altitude.
- 2) A circular disc of mass 10 kg and radius 0.2 m is set into rotation about an axis passing through its center and perpendicular to its plane by applying torque of 10 N m. Calculate angular velocity of the disc at the end of 6 seconds from the rest.
- 3) Define Young's Modulus. Obtain an expression for Young's Modulus of the material of long uniform wire with diagram.
- 4) Derive formula for determination of Surface Tension of a wetting liquid by capillary rise method.
- 5) A potentiometer wire is 2m long and has a resistance 10Ω . It is connected in series with a resistance of 990Ω and a cell of emf 2V. Calculate the potential gradient along the wire.
- 6) Derive expression for magnetic induction long straight conductor carrying an electric current on the basis of Ampere's Law.

Q. 4) Attempt the following - Any Four**(16)**

- 1) Define conical pendulum. Obtain an expression for angle made by the string of a conical pendulum with the vertical. Hence deduce the expression for the angular speed of the bob and its period.
- 2) Describe graphical representation of displacement, velocity and Accn of SHM with respect to time when the particle starts from extreme position.
- 3) State Huygens principle and describe the construction of plane Wavefront.
- 4) Obtain an expression of mechanical force per unit area acting on a charged conductor and express it in different forms.
- 5) Monochromatic light from a narrow slit illuminates two narrow slits 0.3 mm apart producing an interference pattern with bright fringes 1.5 mm apart on a screen 75 cm away. Find the wavelength of light. How will the fringe width be altered, if:
 - (a) The distance of the screen is doubled.
 - (b) The separation between slits is doubled.

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BSES JUNIOR COLLEGE OF SCIENCE

VADKUN, DAHANU ROAD (W.RLY), DIST THANE, MAHARASHTRA - 401602.

Date: 08/10/2014

SEMESTER I - OCTOBER 2014

Max. Marks: 50

Class: S.Y.J.C. SCI

Subject: Physics

Time: 2.5 hours

Instructions: 1) All questions are compulsory 2) Draw diagrams wherever necessary
3) Use of log table is allowed

SECTION - I

Q. 1) Select and write the most appropriate answers of the following questions: (05)

- 1) A particle moving in a circular path with a constant angular velocity $\vec{\omega}$ has a linear speed V . The magnitude of its acceleration is _____.
(a) $V\omega$ (b) ω/V (c) V/ω (d) Zero
- 2) An object of mass 10g move around circumference of circle of radius 2m. with constant angular speed 7.5 rad/s. What is its linear speed.
(a) 10 m/s (b) 12 m/s (c) 15 m/s (d) 20 m/s
- 3) According to Kepler's law, the areal velocity of a planet around the sun _____.
(a) always constant (b) always increases (c) always decreases (d) first increases & then decreases
- 4) A constant torque acting on a body produces in it a constant angular _____.
(a) displacement (b) acceleration (c) momentum (d) velocity
- 5) The differential equation of SHM for a seconds pendulum is _____.
(a) $d^2x/dt^2 + x=0$ (b) $d^2x/dt^2 + \pi x=0$ (c) $d^2x/dt^2 + 4\pi x=0$ (d) $d^2x/dt^2 + \pi^2 x=0$

Q. 2) Attempt ANY THREE: (06)

- 1) Find the relation between according to gravity and universal constant of gravitation and show that $gh = g(R/R+h)^2$
- 2) Define linear SHM & find the differential equation of linear SHM.
- 3) Show that the P.E. of a body is $\frac{1}{2}mw^2x^2$ performing SHM.
- 4) A solid sphere has a radius 'R'. If the radius of gyration of this sphere about its diameter is $\sqrt{\frac{2}{5}} R$ show that radius of gyration about tangential axis of rotation is $\sqrt{\frac{7}{5}} R$

Q. 3) Attempt ANY TWO: (06)

- 1) Obtain an expression of period of revolution of satellite & hence show that $T = 2\pi \sqrt{\frac{r}{gh}}$
- 2) State and prove the law of conservation of angular momentum.
- 3) An object of mass 0.5 kg attached to a string of length 0.5m is whirled in a vertical circle at constant angular speed. If the maximum tension in the string is 5 kg wt. Calculate:
(a) Speed of Object (b) Maximum no. of revolutions it can complete in a minute
- 4) The period of oscillation of simple pendulum increases by 20% when its length is increased by 44 cm. Find its: (a) Initial length (b) Initial period of oscillation

Q. 4) Attempt ANY TWO: (08)

- 1) State the equations of tensions at the top and bottom positions in the string when the body performs vertical circular motion & show that the difference between these tensions is $6mg$.

- 2) Describe graphical representation of displacement, velocity and acceleration of SHM with respect to time when the particle starts from mean position. State the conclusions from the graph.
- 3) A Flywheel in the form of disc is rotating about an axis passing through its centre and perpendicular to its plane loses 100J of energy when slowing down from 60 rpm to 30 rpm. Find its MI and change in its angular momentum.

SECTION - II

Q. 1) Select and write the most appropriate answers of the following questions: (05)

- 1) The refractive index of glass and diamond with respect to air are 1.5 and 2.4 respectively. The refractive index of diamond with respect to glass is _____.
 (a) 0.62 (b) 0.9 (c) 1.95 (d) 1.6
- 2) For constructive interference, the phase difference between two waves must be _____.
 (a) $0, \pi, 2\pi, 3\pi$ (b) $0, \pi, 3\pi, 5\pi, \dots$ (c) $0, 2\pi, 4\pi, 6\pi, \dots$ (d) $0, 3\pi, 6\pi, 9\pi, \dots$
- 3) In n condensers each of capacity c are connected in parallel, effective capacity of combination is _____.
 (a) c/n (b) nc (c) n/c (d) $2c/n$
- 4) Wheatstone's network is used to measure _____.
 (a) resistance (b) current (c) potential difference (d) e.m.f. of cell
- 5) A parallel beam of light travelling in glass is incident obliquely on water surface. After refraction, its width _____.
 (a) decreases (b) increases (c) remains the same (d) becomes zero

Q. 2) Solve ANY THREE: (06)

- 1) Draw neat labeled ray diagram of biprism experiment.
- 2) Green light of wavelength, 5100 \AA from a narrow slit incident on a double slit. If the overall separation of 10 fringes on a screen 2 meter away is 2 cm, find the slit separation.
- 3) Write any four uses of Van de Graaff generator.
- 4) Write the statement of junction law and voltage law.

Q. 3) Solve ANY TWO: (06)

- 1) With the help of neat diagram, explain reflection of light from a plane reflecting surface on the basis of wave theory of light.
- 2) Explain Young's experiment with neat labeled diagram.
- 3) Derive an expression for mechanical force per unit area of a charge conductor with diagram.
- 4) State and explain principle of potentiometer.

Q. 4) Attempt ANY TWO: (08)

- 1) The current flowing through an external resistance of 2^{-2} is 0.5A when it is connected to the terminal of cell. This current reduced to 0.25A when external resistance is 5^{-2} use the Kirchoff's laws to find e.m.f. of cell.
- 2) State Gauss theorem & find the equation of electric intensity at point outside a charge cylinder.
- 3) Describe Fraunhofer diffraction with neat labeled diagram.

----- ALL THE BEST -----