

Question Booklet Series: **A**

Question Booklet Serial No.

100147

## Ph.D. Entrance Test – 2017

**Subject: Hindi**

**Paper – I**

**Important:** Please consult your Admit Card/Roll No. slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No.

*In Figure*

*In Words*

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O.M.R. Answer Sheet Serial No.

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Signature of Candidate: \_\_\_\_\_

Signature of Invigilator: \_\_\_\_\_

**Time: 60 Minutes**

**Number of Questions: 50**

**Maximum Marks: 50**

**DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO.**

### INSTRUCTIONS:

1. Write your Roll No. on the Questions Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Question Booklet Serial No. on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel Pen**.
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. Please check that this Question Booklet contains **50** Questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of Test.
5. Each question has four alternative answer (A,B,C,D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen**. There shall be no negative marking for wrong answers.
6. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Booklet. No marks will be deducted in such cases.
7. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the question given in the Question Booklet.
8. If you want to change an already marked answer, erase the shade in the darkened bubble completely.
9. For rough work only the blank sheet at the end of the Question Booklet be used.
10. The Answer Sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e. not following the instructions completely, shall be of the candidate only.**
11. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
12. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so would be expelled from the examination.
13. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistant or found giving or receiving assistant or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
14. **Communication equipment such as mobile phones, pager, wireless set, scanner, camera or any electronic/digital gadget etc., is not permitted inside the examination hall. Use of calculators is not allowed.**
15. The candidates will not be allowed to leave the Examination Hall/Room before the expiry of the allotted time.

(1077)

1. अद्वैतवाद की राजनैतिक पृष्ठभूमि थी -  
A) हर्षवर्धन के साम्राज्य का विस्तार  
B) औरंगजेब का शासन  
C) हर्षवर्धन के साम्राज्य का पतन  
D) राजा मानसिंह का शासन
2. साहित्येतिहास दर्शन को सिद्धांत को प्रतिपादित करते हुए साहित्य की विभिन्न प्रवृत्तियों को मूल में जाति, वातावरण एवं शृंगार-विशेष को किसने महत्त्व दिया है -  
A) फ्रॉब विद्याल लेग  
B) जर्मन दार्शनिक कान्त  
C) फ्रॉब विद्याल मार्स व तीसी  
D) डारविन
3. वर्षा रत्नाकर को रचनाकार का नाम है -  
A) ज्योतिरीश्वर ठाकुर  
B) दामोदर शर्मा  
C) रोड  
D) मधुकर
4. अपनी किस रचना को विद्यापति ने 'काशी' कहा है?  
A) श्रावकाचार  
B) उक्ति ज्योति प्रकरण  
C) पदावली  
D) कीर्तिमत्त
5. 'अर्थापद' किस प्रकार के शीतल ?  
A) इनमें शब्दों का अर्थ-मूल होता है।  
B) इनकी रचना परिनिष्ठित अपभ्रंश में मिलती है।  
C) जो सामान्य बौद्धशिक्षकों द्वारा अनुष्ठानों के समय गाये जाते हैं।  
D) इसका संबंध जैन-साहित्य से है।
6. अमीर खुसरो के गुरु का नाम है?  
A) सुमैनी  
B) सूफी संत चन्द  
C) मलिक उज्जु जलालुद्दीन  
D) सूफी संत निजामुद्दीन औलिया
7. निम्नलिखित में से ऐसा कौन सा संत कवि है जिसने पारंपरिक ढंग से शिक्षा ग्रहण की थी?  
A) सुन्दरदास  
B) रैदास  
C) दादूदास  
D) मनुकदास
8. निम्नलिखित में से 'विष्णु प्रभाकर' का ऐसा कौन सा नाटक है, जिसमें जैन धर्म को प्रथम तीर्थंकर ऋषभदेव को दूसरे पुत्र बाहुबली की कथा है?  
A) सत्ता के आर-पार  
B) नव प्रभात  
C) पुणे-पुणे ऊति  
D) समाधि
9. तुलसीदास किस दार्शनिक मत के भक्त कवि थे?  
A) अद्वैतवाद  
B) द्वैतवाद  
C) बुद्धाद्वैतवाद  
D) विशिष्टाद्वैतवाद
10. भक्ति आंदोलन को भारतीय चिन्ताधारा का स्वाभाविक विकास किसने माना है?  
A) इजारी प्रसाद द्विवेदी  
B) नन्द दुलारे वाजपेयी  
C) शिवराम  
D) आचार्य रामचन्द्र शुक्ल

11. 'नसीहतनामा' के रचनाकार हैं?  
 A) श्रीचंद  
 B) नानक देव  
 C) दादू दयाल  
 D) भक्तदास
12. 'अपनी अपनी रीति के काव्य और कवि रीति' - पंक्ति किसकी है?  
 A) बलिराम  
 B) चिन्तामणि  
 C) देव  
 D) भिखारीदास
13. तन्त्रीनाद कवित्त रस, सरस रस रति रंग।  
 अनबूठे बूठे त्तरे, जे बूठे सब अंग॥  
 A) रत्ननिधि  
 B) नेवाज  
 C) वृन्द  
 D) बिहारी
14. 'चंडी चरित्र' के रचनाकार का नाम है -  
 A) गुरु गोविन्द सिंह  
 B) गुरु नानक  
 C) गुरु अर्जुन देव  
 D) कवि भूषण
15. रीतिमुक्त कवि ठाकुर का जन्म कहाँ हुआ था?  
 A) मेवाड़  
 B) औरछा  
 C) मेवाड़  
 D) ललितपुर
16. पद्य कथा 'बिकट भट' किसकी रचना है?  
 A) नाथूराम शर्मा 'शंकर'  
 B) श्रीधर पाठक  
 C) मैथिलीशरण गुप्त  
 D) अयोध्या सिंह उपाध्याय 'हरिऔध'
17. "जब पहिलों की काव्यभाषा स्थिर होकर उत्तरोत्तर जागे बढ़ती हुई लोकभाषा से दूर पर जाती है और जनता के हृदय पर प्रभाव डालने की उसकी शक्ति क्षीण होने लगती है तब शिष्ट समुदाय लोकभाषा का सहाय लेकर अपनी काव्य - परंपरा में नया जीवन डालता है।"  
 यह कथन किस आलोचक का है?  
 A) आचार्य रामचन्द्र शुक्ल  
 B) आचार्य हजारी प्रसाद द्विवेदी  
 C) महावीर प्रसाद द्विवेदी  
 D) नन्द दुलारे वाजपेयी
18. अंग्रेजी राज के गुप्तचर विभाग में मैथिलीशरण गुप्त की किस रचना का अर्थ 'जनाता हिन्दुस्तान' समझा गया?  
 A) जय भारत  
 B) स्वदेश संगीत  
 C) रंग में भंग  
 D) भारत - भारती
19. भारत, जय विजय करे,  
 कमक, शय्य कमल धरे। - पंक्ति किस कवि की है?  
 A) निराला  
 B) बाल कृष्ण शर्मा 'नवीन'  
 C) मैथिलीशरण गुप्त  
 D) उदय शंकर भट्ट
20. मैं बचपन को बुला रही थी, बोल उठी बिटिया मेरी,  
 नदनवन - सी फूल उठी, यह छोटी - सी कुटिया मेरी॥ - पंक्ति किस कवि की है?  
 A) महादेवी वर्मा  
 B) सुभद्राकुमारी चौहान  
 C) सुमित्रानन्दन पन्त  
 D) निराला

21. निम्नलिखित में से कौन-सा कथन असत्य है?
- A) दार्शनिक दृष्टि से प्रसाद श्रेय थे।  
 B) जयशंकर प्रसाद ने 'प्रेमपथिक' की रचना पहले स्वरी बोली में की थी।  
 C) 'विवाहपर' में एक साथ दस ग्रंथों का संकलन है।  
 D) 'कानन कुसुम' प्रसाद की प्रथम कृति है।
22. जल-जन में जो उर्जा भर दे,  
 मैं उद्गता हूँ उस रवि का। - पंक्ति किस कवि की है?
- A) निराला  
 B) कृष्ण बेचैन  
 C) नामार्जुन  
 D) सुमित्रानन्दन पन्त
23. लीक पर घे चलें जिनके  
 धरण दुर्बल और हारे हैं  
 हमें तो हमारी बाज से बने  
 ऐसे अनिर्मित पंच प्यारे हैं -  
 पंक्ति किसकी है ?
- A) रघुवीर सहाय  
 B) केदारनाथ सिंह  
 C) सर्वेश्वर दयाल सक्सेना  
 D) मुक्ति-बोध
24. यह जनता  
 जिसकी रोज सैकड़ों बार हत्या होती है  
 और हर बार  
 यह भेड़ियों की जुबान पर जिया है। - पंक्ति किसकी है ?
- A) धूमिल  
 B) विनोद कुमार शुक्ल  
 C) नीलाधार जगृही  
 D) राजकमल चौधरी
25. मुक्तिबोध की कविता को 'साव्य' किसने कहा?
- A) डॉ. नमवर सिंह  
 B) राम विलास शर्मा  
 C) प्रभाकर माधवे  
 D) उपरोक्त कोई भी नहीं
26. कहाँ से तप या चिरगई हरेक घर के लिए,  
 कहाँ चिराम नयस्सर नहीं शहर के लिए। - पंक्ति किसकी है?
- A) दुष्यंत कुमार  
 B) केदारनाथ अग्रवाल  
 C) ब्रधन  
 D) धर्मवीर भारती
27. 'मैं एक फेरी वाला' किसका काव्य-संग्रह है?
- A) धर्मवीर भारती  
 B) अशोक  
 C) मुक्तिबोध  
 D) राही मासूम रजा
28. 'अग्नि में' कविता को 'अस्मिता की खोज' किसने कहा?
- A) राम विलास शर्मा  
 B) नमवर सिंह  
 C) इंदरनाथ नयान  
 D) नगेन्द्र
29. नासिरा शर्मा को वर्ष 2016 में किस उपन्यास पर साहित्य अकादमी पुरस्कार से सम्मानित किया गया?
- A) सुदृशजान  
 B) परिजात  
 C) अक्षयवट  
 D) सात नदियाँ एक समुद्र

30. केशवदास सिंह को किस रचना पर ज्ञानपीठ पुरस्कार मिला?  
 A) जमीन पक रही है  
 B) उत्तर कबीर और अन्य कविताएं  
 C) यहाँ से देखो  
 D) अकाल में सारस
31. राजभाषा अधिनियम कब पारित हुआ?  
 A) 10 मई 1963  
 B) 10 मई 1967  
 C) 19 मई 1962  
 D) 19 मई 1967
32. विश्व हिन्दी दिवस/अंतरराष्ट्रीय हिन्दी दिवस कब मनाया जाता है?  
 A) 14 सितम्बर  
 B) 10 जनवरी  
 C) 8 जनवरी  
 D) 5 जनवरी
33. राजभाषा आयोग का गठन कब हुआ था?  
 A) 7 जून 1955  
 B) 5 जून 1950  
 C) 14 सितम्बर 1965  
 D) 5 जून 1955
34. ग्यारहवाँ विश्व हिन्दी सम्मेलन कहाँ पर होगा?  
 A) ब्रिटेन  
 B) सूरीनाम  
 C) नॉर्वेज  
 D) भोपाल
35. "लगभग पचास वर्ष तक लिखते रहने के बाद भी जो बचा रह जाता है - प्रश्न, चिन्ताएँ, सन्देह, आस्पाएँ, व्याकुलताएँ, अज्ञान और प्रतीति की सम्भावनाएँ उन सबके संकेत लेकर ही मैं पाठक को समाने आया हूँ।"  
 'आशुपत्नी' रचना की भूमिका में लिखा गया यह कथन किसका है?  
 A) सुर्दकान्त त्रिपाठी 'निराला'  
 B) सुबिज्ञानन्दन पंत  
 C) सचिदानन्द हीरानन्द वात्स्यायन 'अज्ञेय'  
 D) सुकितबोध
36. 'घासीराम कोतवाल' किसका नाटक है?  
 A) शिरीश कर्नाड  
 B) लक्ष्मीनारायण लाल  
 C) विप्लव तेंदुलकर  
 D) महाश्वेता देवी
37. बालमुकुंद गुप्त ने 'शिवशंभू के चिट्ठे' किसे संबोधित करके लिखे?  
 A) तत्कालीन गवर्नर जनरल लॉर्ड कार्जन को  
 B) जॉनिथन डंकन  
 C) चार्ल्स हेस्टिंग्स  
 D) उपर्युक्त कोई नहीं
38. निम्नलिखित सूचियों को सुमेलित करते हुए उचित कोड का चयन करें-

सूची - I

- a) कुन्तक  
 b) लौजाइनस  
 c) सेनेन्ड  
 d) देरिस

कोड  
 A  
 B  
 C  
 D

a  
 1  
 2  
 3  
 3

b  
 2  
 1  
 1  
 2

सूची - II

1. पैरिडप्सुस  
 2. औचित्य विचार चर्चा  
 3. बक्रोविकि जीवितम्  
 4. ऑफ़ सेमेटोलॉजी

c  
 3  
 4  
 2  
 1

d  
 4  
 3  
 4  
 4

39. निम्नलिखित सूचियों को सुधेरित करते हुए सही फोड का चयन कीजिए -

सूची - I

(निबंधकार)

- हजारी प्रसाद द्विवेदी
- डॉ. रामविलास शर्मा
- रामवृक्ष बेनीपुरी
- ठाकुर प्रसाद सिंह

सूची - II

(निबंध - संरह)

- प्रगति और परम्परा
- चिंतन के क्षण
- पुराना घर नये लोग
- कल्पलता
- माटी की मूर्ते

कूट:	(a)	(b)	(c)	(d)
A	2	4	1	5
B	1	4	5	2
C	4	1	5	3
D	4	2	1	5

40. किस आलोचक ने कोचे के 'अभिव्यञ्जनावाद' को भारतीय यज्ञोक्तिवाद का 'विलापती उत्थान' कहा है?

- आचार्य रामचन्द्र शुक्ल
- शिवराम सिंह चौहान
- महावीर प्रसाद द्विवेदी
- प्रभाकर माधवे

41. निम्नलिखित में से किस विकल्प में रचनाओं को सही प्रकाशन क्रम में (पहले प्रकाशित रचनाओं को पहले और बाद में प्रकाशित रचनाओं को बाद में) रखा गया है -

- फाली, भटकती राख, वादूधु, सयन
- परिन्डे, जलती झाड़ी, बीच बहस में, कव्ये और चलापानी
- जूठन, छतरी, सलम, चुलपैठिये
- भास का दरिया, आजादी नुबारक, कस्बे का आदमी, बयान

42. हिन्दी में सयुक्त व्यंजन हैं?

- प, च, ज, स
- झ, च, य
- झ, च, ज
- श, व, स, ह

43. उच्चारण स्थान के आधार पर हिन्दी व्यंजनों में 'ट' वर्ग की सभी ध्वनियाँ?

- दन्त्य
- मूर्धन्य
- सालय
- कण्ठ्य

44. देवनागरी लिपि का विकास क्रम है?

- गुप्तलिपि - कुटिललिपि - ब्राह्मीलिपि - देवनागरी
- ब्राह्मीलिपि - गुप्तलिपि - कुटिललिपि - देवनागरी
- कुटिललिपि - ब्राह्मीलिपि - कुटिललिपि - फारसी
- देवनागरी - कुटिललिपि - ब्राह्मीलिपि - गुप्तलिपि

45. निम्नलिखित में से काल - साहित्यकार नहीं है?

- दिविक रमेश
- प्रकाश मनु
- हरिशंकर परसाई
- हरिकृष्ण देवसे

46. इनमें से असंगत को अलग कीजिए-
- |    |                   |   |              |
|----|-------------------|---|--------------|
| A) | विनोद कुमार शुक्ल | - | नौकर की कमीज |
| B) | श्यामभरण जैन      | - | मास्टर साहब  |
| C) | भोग्य साहनी       | - | बीज          |
| D) | उषादेवी मित्रा    | - | वचन का गोल   |
47. प्रभाकर साधवे का ऐसा कौन सा उपन्यास है जिसमें अमेरिकी नींदों की कहानी के माध्यम से काले-गोरे की अन्तरराष्ट्रीय समस्या को कथा का आधार बनाया है?
- |    |                   |    |               |
|----|-------------------|----|---------------|
| A) | स्वप्नता          | B) | डर्ड के पैसंद |
| C) | ऑल नेरी बाकी उनका | D) | 'जो'          |
48. इन सूचियों को सुमेलित करते हुए सही विकल्प का चयन करें-
- |    |                    |   |              |
|----|--------------------|---|--------------|
| A) | सृजन के सेतु       | - | फाजीनाथ सिंह |
| B) | अक्षर - अक्षर यज्ञ | - | प्रकाश मनु   |
| C) | साथ-साथ मेरा साथ   | - | विवेकी राय   |
| D) | पादों के गलियारे   | - | नासिर शर्मा  |
49. 'रस अपने व्यापक अर्थ में मानसिक अनुभूति ही है' - कथन किसका है?
- |    |                              |    |                            |
|----|------------------------------|----|----------------------------|
| A) | डॉ. नरेन्द्र                 | B) | आचार्य शुक्ल               |
| C) | आचार्यमहावीर प्रसाद द्विवेदी | D) | आचार्य नन्द जुलारे वाजपेयी |
50. फीजी का 'प्रेमचन्द' किसे कहा जाता है?
- |    |                    |    |                   |
|----|--------------------|----|-------------------|
| A) | श्री रामदेव रघुवीर | B) | जोमिंदर सिंह कंबल |
| C) | अभिलान्यु अनंत     | D) | रामरत्न शर्मा     |

X-X-X

Question Booklet Series: **A**

Question Booklet Serial No. **100010**

## Ph.D. Entrance Test – 2017

**Subject: Urdu**

**Paper – I**

**Important:** Please consult your Admit Card/Roll No. slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No. **In Figure** **In Words**

--	--	--	--	--	--

O.M.R. Answer Sheet Serial No.

--	--	--	--	--	--

Signature of Candidate: \_\_\_\_\_ Signature of Invigilator: \_\_\_\_\_

**Time: 60 Minutes**      **Number of Questions: 50**      **Maximum Marks: 50**

**DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO.**

### **INSTRUCTIONS:**

1. Write your Roll No. on the Questions Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Question Booklet Serial No. on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel Pen**.
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. Please check that this Question Booklet contains **50** Questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of Test.
5. Each question has four alternative answer (A,B,C,D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen**. **There shall be no negative marking for wrong answers.**
6. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Booklet. No marks will be deducted in such cases.
7. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the question given in the Question Booklet.
8. If you want to change an already marked answer, erase the shade in the darkened bubble completely.
9. For rough work only the blank sheet at the end of the Question Booklet be used.
10. The Answer Sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e. not following the instructions completely, shall be of the candidate only.**
11. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
12. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so would be expelled from the examination.
13. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistant or found giving or receiving assistant or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
14. **Communication equipment such as mobile phones, pager, wireless set, scanner, camera or any electronic/digital gadget etc., is not permitted inside the examination hall. Use of calculators is not allowed.**
15. The candidates will not be allowed to leave the Examination Hall/Room before the expiry of the allotted time.



نوٹ: سبھی سوالوں کے جواب لازمی ہیں۔

- سوال نمبر 1۔ "ایک خدا پرست شہزادی کا قصہ" کس داستان میں ہے۔  
 (A) طوطا مینا کی کہانی (B) باغ و بہار (C) فسانہ عجائب (D) ظلم ہوش ربا
- سوال نمبر 2۔ "شہزادے کے پہلے سفر کا آغاز" کس داستان کا حصہ ہے۔  
 (A) فسانہ عجائب (B) طوطا مینا کی کہانی (C) سب رس (D) داستان امیر حمزہ
- سوال نمبر 3 غضب کیا ترے وعدے پہ اعتبار کیا۔۔۔ اس کا مصرعہ ثانی کیا ہے۔  
 (A) مری وفانے مجھے خوب شرمسار کیا (B) تمام رات قیامت کا انتظار کیا  
 (C) اخیر کچھ نہ بنی، صبر اختیار کیا (D) صبانے خاک پریشاں مرا غبار کیا
- سوال نمبر 4۔ جنت الحمقہ، نیرنگ خیال کے کس حصے میں شامل ہے۔  
 (A) حصہ اول (B) حصہ دوم (C) حصہ سوم (D) حصہ چہارم
- سوال نمبر 5۔ "زبان اردو ایک لاوارث بچہ تھا کہ اردوئے شاہ جہانی میں پھرتا ہوا ملا کسی کو اس غریب کے حال کی پروا نہ ہوئی۔ اتفاقاً" شعرا نے اٹھالیا اور محبت سے پالنا شروع کیا۔" یہ کس کا قول ہے۔  
 (A) میرامن (B) شبلی نعمانی (C) محمد حسین آزاد (D) رام بابو سکینہ
- سوال نمبر 6۔ "لڑکپن کے عالم کو چھپے چھوڑ کر آگے بڑھے، نو جوان ہوئے اور پختہ سال انسان ہوئے۔ اس سے بڑھ کر بڑھا پاد بکھا اور حق پوچھو تو تمام عمر انسانی کا عطر وہی ہے۔" یہ اقتباس درج ذیل کس مضمون سے لیا گیا ہے۔  
 (A) عمر رفتہ (B) سیر زندگی  
 (C) انسان کسی حال میں خوش نہیں رہتا (D) گلشن امید کی بہار
- سوال نمبر 7۔ نثار احمد اور سعید ہاشمی کس ڈرامہ کے کردار ہیں۔  
 (A) جونک (B) چھوٹے میاں (C) فالتو چیزیں (D) انجام
- سوال نمبر 8۔ پروفیسر محمد مجیب کا ڈرامہ ہے۔  
 (A) فالتو چیزیں (B) چھوٹے میاں (C) جونک (D) انجام
- سوال نمبر 9۔ تو ہم پرستی کو کس ڈرامے میں موضوع بنایا گیا ہے۔  
 (A) انا کی آواز (B) انجام (C) فالتو چیزیں (D) انا رنگی
- سوال نمبر 10۔ ڈھونڈو گے اگر ملکوں ملکوں، ملنے کو نہیں، نایاب ہیں ہم  
 تعبیر ہے جس کی حسرت و غم، اے ہم نفسوا وہ خواب ہیں ہم کس کا شعر ہے۔  
 (A) میر تقی میر (B) داغ (C) میر درد (D) شاد عظیم آبادی

سوال نمبر 11۔ درج ذیل رباعی کس کی ہے۔

بزمِ شعرا میں، شعرِ شمعانی چھوڑی  
لمبلیں کی، چمن میں ہم زبانی چھوڑی  
ہم نے بھی تیری رام کہانی چھوڑی  
جب سے دل زندہ اتونے چھوڑا ہم کو

(A) تلوک چند محروم (B) جگت موہن لال روائ

(C) خواجہ الطاف حسین حالی (D) امجد حیدر آبادی

سوال نمبر 12۔ درج ذیل میں سے فیض احمد فیض کے مجموعے کا نام نہیں ہے۔

(A) زندانِ نامہ (B) دستِ تہہ سنگ

(C) تنہائی (D) دستِ صبا

سوال نمبر 13۔ مسعود حسین خان کی کتاب "مقدمہ تاریخ زبان اردو" کتنے ابواب پر مشتمل ہے۔

(A) دو (B) چار (C) تین (D) پانچ

سوال نمبر 14۔ "برج بھاشا" کا مرکز کس شہر کو قرار دیا گیا ہے۔

(A) آگرہ (B) گوڑگاؤں (C) منٹرا (D) دہلی

سوال نمبر 15۔ "رات اور ریل" نظم کے خالق کا نام کیا ہے۔

(A) جوش ملیح آبادی (B) اختر الایمان

(C) ساحر لدھیانوی (D) اسرار الحق مجاز

سوال نمبر 16۔ "رائٹ شوری اور نوڈ" پر ہم چند کے کس افسانے کے کردار ہیں۔

(A) قاتل کی ماں (B) کفن (C) بیہ (D) واردات

سوال نمبر 17۔ "ادب میں جدیدیت کا مفہوم" کس ادیب کا مضمون ہے۔

(A) علی سردار جعفری (B) خلیل الرحمن اعظمی

(C) آل احمد سرور (D) محمد حسن

سوال نمبر 18۔ "قصیدہ شہر آشوب" کے مطلع کا مصرعہ اول ہے۔

(A) چاہے جو کوئی شیخ بنے، بہر فراغت (B) اب سامنے میرے جو کوئی ہیرو جو اس ہے

(C) دنیا میں تو آسودگی رکھتی ہے فقط نام (D) ہر صبح یہ خطرہ ہے کہ طے کیجیے منزل

سوال نمبر 19۔ "کتنا بے قید ہوا کس قدر آوارہ پیرا؟" اس کا دوسرا مصرعہ کیا ہے۔

(A) گسا گھرا پر کبھی گزرا، کبھی سونے چٹل (B) نہ بچا خاک اڑانے سے، کوئی دشت و جبل

(C) عمرِ اخضر میں سلاطین سے پڑی ہے بل چل (D) کوئی مندر نہ بچا اس سے، نہ کوئی استقل

سوال نمبر 20۔ "تن تنہا" دیں لاکھ سواروں سے لڑے" یہ مصرعہ کس شاعر کے مرثیے کا ہے۔

(A) میرزا دبیر (B) میر ضمیر (C) میر انیس (D) جوش ملیح آبادی

سوال نمبر 21۔ مسعود حسن رضوی ادیب کی کتاب کا نام کیا ہے۔

(A) تنقیدی افکار (B) بحث و تنقید

(C) لکھنؤ کا دبستان شاعری (D) ایسیات

سوال نمبر 22۔ طاؤس چمن کی مینا کے مصنف کا نام کیا ہے۔

(A) انیس اشفاق (B) انتظار حسین

(C) عابد سہیل (D) نیر مسعود

سوال نمبر 23۔ دستِ خدا کا قوت بازو حسین ہے۔۔۔

اس مرثیے کا خالق کون ہے۔

(A) مرزا دبیر (B) میر انیس (C) جوش (D) میر ضمیر

سوال نمبر 24۔ کسی شہر میں تھا کوئی بادشاہ  
کہ تھا وہ شہنشاہ گیت کی بناؤ

یہ شعر کس مثنوی کا ہے۔

(A) سحر البیان (B) گلزارِ نسیم (C) زہرِ عشق (D) قطبِ مشتری

سوال نمبر 25۔ اندیشہ بہار سے رنگِ خزاں ہے زرو  
وہشت لگی ہوئی ہے اسے انتقام کی

اس شعر میں کون سی صنعت استعمال کی گئی ہے۔

(A) تلمیح (B) ایہام (C) حسنِ تعلیل (D) تضاد

سوال نمبر 26۔ دیاساائی کے مصنف کا نام ہے۔

(A) سرسید (B) پطرس بخاری (C) محمد حسین آزاد (D) خواجہ حسن نظامی

سوال نمبر 27۔ "ہندوستان کی موجودہ زبانوں کی ساخت اس بات کا پتہ دیتی ہے ہندوستان میں آریادہ مختلف گروہوں میں داخل

ہوئے ہوں گے۔" یہ قول کس محقق کا ہے۔

(A) گریسن (B) ہرٹلے (C) شیم سندر داس (D) مولوی عبدالحق

سوال نمبر 28۔ "نیرنگ خیال" کے دوسرے حصے میں کتنے مضامین شامل ہیں۔

(A) آٹھ (B) تین (C) چھ (D) پانچ

سوال نمبر 29۔ "اردو لسانیات" کے مصنف کا نام کیا ہے۔

(A) شوکت بھڑواری (B) مسعود حسین خان

(C) نور الحسن نقوی (D) ابوالیث صدیقی

سوال نمبر 30۔ آگنی آپ کو سجائی  
مرنے والوں کو مر جا کیے

درج بالا شعر کس شاعر کا ہے۔

(A) میر درد (B) مرزا غالب (C) داغ دہلوی (D) میر تقی میر

سوال نمبر 31۔ درج ذیل میں سے کون سی نظم علی سردار جعفری کی ہے۔

(A) ریل گاڑی (B) نوالہ (C) اسے ماورہ ہندوستان (D) کٹے

سوال نمبر 32۔ کتبے پڑھنے والے، کس کے افسانوی مجموعے کا نام ہے۔

(A) نیر مسعود (B) اقبال مجید (C) انیس اشفاق (D) عابد امیل

سوال نمبر 33۔ الطاف حسین حالی کس اسکول میں مدرس تھے۔

(A) انگلو عربک اسکول (B) دہلی اسکول

(C) لکھنؤ اسکول (D) انڈین مسلم اسکول

سوال نمبر 34۔ گوری ہو گوری کس کا افسانہ ہے۔

(A) کرشن چندر (B) سید رفیق حسین

(C) سعادت حسن منٹو (D) علی عباس حسینی

سوال نمبر 35۔ مرزا غالب نظم کے خالق کا نام کیا ہے۔

(A) نظیر اکبر آبادی (B) اکبر ال آبادی

(C) جوش (D) اقبال

سوال نمبر 36۔ رسیدی ٹکٹ کا تعلق کس صنف ادب سے ہے۔

(A) افسانہ (B) ناول (C) خودنوشت (D) سفر نامہ

سوال نمبر 37۔ مندرجہ ذیل میں سے اقبال کی کون سی نظم نہیں ہے۔

(A) پہاڑ اور گلہری (B) مرزا غالب

(C) امن کا ستارہ (D) پرندے کی فریاد

سوال نمبر 38۔ شیخ وجودی کس ناول کا کردار ہے۔

(A) شریف زادو (B) فردوس بریں

(C) خواب سراب (D) فسانہ آزاد

سوال نمبر 39۔ مختار علی کس ڈرامے کا کردار ہے۔

(A) تپونے میاں (B) انجام (C) فالتو چیزیں (D) انارکلی

سوال نمبر 40۔ "نواح دہلی کی بولیوں کے قدیم نمونے جوں جوں روشنی میں آتے جائیں گے یہ بات واضح ہوتی جائے گی کہ اردو کا

ماخذ یہی بولیاں ہیں" یہ قول کس محقق کا ہے۔

(A) محمد حسین آزاد (B) امتیاز علی عرشی

(C) مسعود حسن رضوی ادیب (D) مسعود حسین خان

سوال نمبر 41۔ کث کہانی کے مرتبین ہیں۔

- (A) عبدالقادر سروری، نور الحسن نقوی (B) مالک رام، مسعود حسین خان  
(C) مولوی عبدالحق، نور الحسن نقوی (D) نور الحسن نقوی، مسعود حسین خان

سوال نمبر 42۔ ابراہیم نامہ کا شاعر محمد کس شای دور کا شاعر تھا۔

- (A) عادل شای (B) قطب شای (C) نظام شای (D) بہمن شای

سوال نمبر 43۔ آیات و نجات کے مصنف کا نام کیا ہے۔

- (A) سر سید احمد خان (B) حکیم نجم الغنی (C) زارغلامی (D) محسن الملک

سوال نمبر 44۔ برق کلیسا کس کی نظم ہے۔

- (A) الطاف حسین حالی (B) محمد اقبال

- (C) اکبر الہ آبادی (D) سردار جعفری

سوال نمبر 45۔ پہچین کا زمانہ جو کہ حقیقت میں دنیا کی بادشاہت کا زمانہ ہے، ایک ایسے دلچسپ اور پُر افضا میدان میں گزرا جو کھفت کے

گرد و غبار سے پاک تھانہ وہاں ریت کے ٹیلے تھے نہ خاردار جھاڑیاں تھیں نہ آنندھیوں کے طوفان تھے نہ بادِ موسم کی لپٹ

درج ذیل میں سے کس کا اقتباس ہے۔

- (A) گزرا ہوا زمانہ (B) نگلشن امید کی بہار

- (C) دیباچہ سدس (D) انسان کسی حال میں خوش نہیں رہتا

سوال نمبر 46۔ حروفِ شمس کی تعداد کتنی ہے۔

- (A) دس (B) بارہ (C) پندرہ (D) اٹھارہ

سوال نمبر 47۔ پشاپچی پر اکرت زبان کا تعلق کن علاقوں سے تھا۔

- (A) جنوبی بہار اور متھرا (B) الہ آباد اور متھرا (C) کشمیر اور پنجاب (D) مہاراشٹرا اور گجرات

سوال نمبر 48۔ حروفِ قمری ہیں۔

- (A) ت، ٹ، ڈ، رز (B) ج، ح، خ، ہ، ش، (C) ص، ہ، ط، ظ، ع (D) ع، غ، ف، ق، ک

سوال نمبر 49۔ مامور کے کیا معنی ہے۔

- (A) بنایا گیا (B) حکم دیا گیا

- (C) آبادی (D) خرچ کیا گیا

سوال نمبر 50۔ کس ناول کا موضوع "قطب بنگال" ہے۔

- (A) گدھے کی سرگزشت (B) کھلت

- (C) پانی کا درخت (D) آن داتا

**Ph. D. Entrance Test – 2017**  
**Subject: Biotechnology**  
**Paper – I**

**Important:** Please consult your Admit Card/Roll No. slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No. **In Figure** **In Words**

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O.M.R. Answer Sheet Serial No.

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Signature of Candidate: \_\_\_\_\_ Signature of Invigilator: \_\_\_\_\_

**Time: 60 Minutes**    **Number of Questions: 50**    **Maximum Marks: 50**

**DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO.**

**INSTRUCTIONS:**

1. Write your Roll No. on the Questions Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Question Booklet Serial No. on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel Pen**.
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. Please check that this Question Booklet contains **50** Questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of Test.
5. Each question has four alternative answer (A,B,C,D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen**. **There shall be no negative marking for wrong answers.**
6. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Booklet. No marks will be deducted in such cases.
7. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the question given in the Question Booklet.
8. If you want to change an already marked answer, erase the shade in the darkened bubble completely.
9. For rough work only the blank sheet at the end of the Question Booklet be used.
10. The Answer Sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e. not following the instructions completely, shall be of the candidate only.**
11. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
12. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so would be expelled from the examination.
13. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistant or found giving or receiving assistant or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
14. **Communication equipment such as mobile phones, pager, wireless set, scanner, camera or any electronic/digital gadget etc., is not permitted inside the examination hall. Use of calculators is not allowed.**
15. The candidates will not be allowed to leave the Examination Hall/Room before the expiry of the allotted time.

Q.No.1 The pH of  $1 \times 10^{-3}$  M KOH is equal to

- A) 3
- B) 11
- C) 8
- D) -3

Q.No.2 You are asked to identify if "X" transcription factor binds to the regulatory region of the gene "Y", which methodology you would exploit to ascertain it

- A) Supershift Assay
- B) Flowcytometric assay
- C) Immunohistochemical assay
- D) Western blotting

Q.No.3 Alterations in cell cycle regulatory proteins severely affect the behaviour of a normal cell in culture. Exposing the cell to mutagen, ethylnitrosourea, led to changes in cells behaviour in such a manner that the mutated cell started to divide after every one minute. At this rate it was consuming lots of cell culture vessels. Hence the cells were diluted to an extent so that the growing cells were filling up a petriplate corresponding to 100 ml volume in an hour. How much time would you think would it take to fill a petriplate of 50 ml volume.

- A) 19 minutes
- B) 30 minutes
- C) 59 minutes
- D) 39 minutes

Q.No.4 The vector DNA contained a sequence recognized by *SmaI* that cuts the sequence CCC/GGG. This enzyme was first one to be discovered. You are asked to clone a gene of your interest so that a foreign gene is inserted at different site within this palindrome sequence. You were lucky to find out that another enzyme that was discovered much later named *XmaI*, cuts this DNA between C/CCGGG, such groups of enzymes were called as.

- A) *SmaI* as Neoschizomer and *XmaI* as Prototype
- B) *SmaI* as Prototype and *XmaI* as Neoschizomer
- C) *SmaI* as Isoschizomer and *XmaI* as Prototype
- D) *SmaI* as Prototype and *XmaI* as Isoschizomer

Q.No.5 A mutation in 5' upstream region of mRNA coding gene in prokaryotes led to alterations in the ribosomal binding region within the newly formed mRNA, such sequence have been named as

- A) Shine Dalgarno sequences
- B) KOZAK Sequences
- C) Hogness box sequences
- D) Pribnow box sequences

Q.No.6 Upon purification of an unknown protein from yeast, the native gel electrophoresis showed the a single band corresponding to molecular weight of 100 kDa. When you separated this protein employing SDS-PAGE, you gave final inference that this unknown protein is a homodimer, Which of the following result of SDS-PAGE led to this inference of yours?

- A) Appearance of a single band of 50 kDa
- B) Appearance of a two bands of 100 kDa
- C) Appearance of single band of 100 kDa
- D) Appearance of two bands one at 50 kDa and the other at 100 kDa

- Q.No.7** A reporter gene construct consisted of NFAT responsive promoter linked to a green fluorescence protein (GFP) gene fragment and the construct was transfected to animal cells in culture. Treatment of these cells with X compound led to expression of GFP and the cells looked green. Which of the following led to such an effect?
- Compound X signals to hydrolyze the NFAT promoter region to release GFP for giving green colour
  - Compound X acted as antisense to block NFAT expression hence only GFP gets expressed and gives green colour
  - Compound X signals to synthesize aromatic amino acid rich protein that gave overall green colour to the cells
  - Compound X signals to translocate cells native NFAT to Nucleus leading to expression of GFP to give green colour
- Q.No.8** What would be the outcome of a DNA ligase reaction when *E coli* DNA ligase was used;
- Ligated DNA, Adenosine monophosphate, Nicotinamide mononucleotide
  - Ligated DNA, Adenosine monophosphate, Pyrophosphate
  - Ligated DNA, Nicotinamide mononucleotide and Pyrophosphate
  - Ligated DNA, Pyrophosphate and inorganic phosphate
- Q.No.9** Which of the following is crucial for optimizing the conventional PCR reaction
- Ratio of Magnesium to forward primer
  - Ratio of deoxyribonucleotides to forward primer
  - Ratio of Magnesium to deoxyribonucleotides
  - Ratio of all the four deoxyribonucleotides
- Q.No.10** With respect to stable transgenic animals, which one of the following best explains the founder animal
- An animals that carries transgene in its germline
  - An animal that carries transgene in endodermal lineage cells
  - The animal that carries transgene strictly in somatic line
  - An animal from first generation that expresses transgene on skin surface.
- Q.No. 11** Based on the following chemical reaction
- $$\text{malic acid} + \text{NAD}^+ \longrightarrow \text{oxaloacetic acid} + \text{NADH} + \text{H}^+ \quad \Delta G = +8.1 \text{ kcal.}$$
- The reaction is endergonic
  - The entropy increases tremendously
  - The bonds between substrates are too weak
  - NAD<sup>+</sup> function as prosthetic group for the enzyme
- Q.No.12** During the production of genetically engineered FLAVR SAVR tomato, which one of the following gene was introduced.
- Antisense RNA producing gene for Polymannouronase
  - Sense RNA producing gene for Polymannouronase
  - Antisense RNA producing gene for polygalacturonase
  - Sense RNA producing gene for polygalacturonase
- Q.No.13** You have been asked to perform the plant tissue culture for generating plants with black rose, the methodology that you used for this culturing represent a technique commonly performed as
- Vegetative propagation
  - Colonization
  - Negative selection
  - Ballistic transformation



- Q.No.14** During RNA silencing mechanism, which of the following component destroys the target mRNA;
- Overhangs of double stranded DNA
  - Argonaute
  - Dicer
  - Restriction endonuclease
- Q.No.15** In a continuous fermenter, among other components glucose was the single growth limiting substrate both for *Mycobacterium bovis* and *Mycobacterium smegmatis*. Both the populations were competing for the glucose. Which one of the two organisms would not be washed out;
- The one maintaining the highest substrate concentration
  - The one maintaining the modest substrate concentration
  - The one maintaining the lowest substrate concentration
  - The one that was added first
- Q.No.16** You are asked to perform the PCR reaction using *Pfu* polymerase and not with *Taq* polymerase. Why do you think this modification was suggested?
- Pfu* polymerase temperature optima is more than 100°C.
  - Taq* polymerase has strong proofreading and does not allow completion of PCR cycles
  - Pfu* lacks the proof reading so that amplification is quick
  - Taq* polymerase does not have proofreading activity
- Q.No.17** Which of the following truly explains the microfilaments?
- These are solid, thinner structures often organized into branching networks and composed of protein actin
  - These are hollow, thicker structures often organized into branching networks and composed of protein myoglobin.
  - These are long, hollow unbranched tubes composed of subunit of protein tubulin
  - These are small, thicker rope like structures composed of protein fibronectin
- Q.No.18** *E.coli* are rod shaped bacteria having 2µm length and 0.8 µm diameter, the average density of the *E.coli* is  $1.1 \times 10^3$  g/L, calculate the average mass of the single cell of this bacteria.
- 20 pg
  - 1pg
  - 0.1 pg
  - 10 pg
- Q.No.19** Within 6 hrs of plating your fibroblast cells in six well plates you observed the cells extending their lamellipodias. This aspect demonstrated which of the following
- The cells are contaminated
  - The cells are in the process of locomotion
  - The cells have just doubled
  - The cells are undergoing apoptosis
- Q.No.20** During a radio-labelling experiment you have exposed the cells to [<sup>3</sup>H] thymidine for a period of 30 minutes. You have then fixed and dried these cells onto a slide and examined by autoradiography. Which of the following outcome would you expect
- No cells will be radio-labelled
  - All cells will be radio-labelled
  - A fraction of cells will be radio-labelled
  - More than 50 percent of the cells will be radio-labelled

**Q.No.21** You have isolated a novel microbial peptide. Upon exposing the cells to this peptide you observed that the M-phase of these cells was reduced from 1 hr to 30 seconds. With the result that there was significant reduction in the overall time lag required for cells to undergo division. Which of the following best explains the character of this novel peptide?

- A) The peptide is inducing mitogenic signal
- B) The peptide induced morphogenic signal
- C) The peptide inhibited mitogenic signal
- D) The peptide inhibited morphogenic signal

**Q.No.22** Antimicrobial peptide which are generally produced by epithelial and lymphocyte cells represent which of the following class of molecules.

- A) Catalytic antibodies
- B) Defensins
- C) Monoclonal antibodies
- D) Adhesins

**Q.No.23** You are asked to clone a plant gene using *Agrobacterium tumefaciens*. You are asked to use binary vector for this cloning process. Which of the following vectors you would chose for this experiment.

- A) Vector that has all the components of Ti plasmid
- B) Vector that has vir genes in separate vector and Ti DNA replaced with target genes in other vector
- C) Vector that has vir genes and T-DNA together on one vector and target gene in other vector
- D) Vector that has vir genes and target genes in separate vector and Ti DNA in other vector

**Q.No.24** All the following are fluorochromes to be used in immune-fluorescence experiments, except;

- A) Fluorescein
- B) Rhodamine
- C) Phycoerythrin
- D) Pheochrome

**Q.No.25** The ATP hydrolysis lead to formation of ADP and Pi from ATP with  $\Delta G^{\circ} = -30.5^{\circ}\text{C}$ . The concentrations of ATP, ADP and Pi for this reaction are 2.25 mM, 0.25 mM and 1.65 mM, respectively. Considering the reaction occur at standard pH and temperature, the calculated the actual free energy of hydrolysis of ATP ( $\Delta G_p$ ) would be;

- A) - 61.00 kJ/mol
- B) - 91.50 kJ/mol
- C) -15.25 kJ/mol
- D) -52.00 kJ/mol

**Q.No. 26** Which of the following methodologies would you opt to generate your primers for PCR amplification process

- A) Internal Stem -Loop structure
- B) Dimerization of the neighbor probes
- C)  $T_m$  greater than  $95^{\circ}\text{C}$  only
- D) GC Content not more than 40 %

- Q.No.27** The *lox P* site with the repeats have been depicted in the following diagram, what can be the possible outcome of recombination event if spacer region is occupied by sequence of your interest.



- A) Sequence of interest will be duplicated like repeats.  
B) Sequence of interest will be excised  
C) Sequence of interest will be inverted  
D) Sequence of interest will be transcribed repeatedly.
- Q.No.28** Identify which set of RNAs mentioned below are all non-protein encoding.
- A) mRNA, rRNA and tRNA.  
B) mRNA, snRNA and tRNA.  
C) miRNA, mRNA and tRNA.  
D) miRNA, rRNA and tRNA.
- Q.No. 29** For comparison of tubulin protein sequences from different species to understand evolutionary relationship among them, which of the following bioinformatics tools can be used.
- A) BLASTn  
B) BLASTt  
C) BLASTx  
D) BLASTp
- Q.No.30** Localization of nucleic acid with in a tissue sample exploiting fluorescently labelled probe could be achieved by
- A) Fluorescence activated cell sorting  
B) Fluorescence *in situ* hybridization  
C) Fluorescence quenching  
D) Fluorescence spectroscopy
- Q.No.31** According to C-value paradox, which of the following best explains it;
- A) The nucleotide C is overrepresented in some genomes  
B) The genomic size of various eukaryotes correlates poorly with the number of protein coding genes of the organism.  
C) The genomic size of various eukaryotes correlates poorly with the biological complexity of the organism.  
D) The genomic size of various eukaryotes correlates poorly with the evolutionary divergence of the organism
- Q.No.32** You are provided with light microscope and asked to detect the chromosome number along with its shape, banding pattern and the position of centromere. The technique that you would exploit to achieve this would be.
- A) Karyotyping  
B) Genotyping  
C) Chromosome mapping  
D) Genome mapping

- Q.No.33** During the open field testing trial of genetically modified organism, the organism *Pseudomonas syringae*, was genetically modified and the newer organism was developed to achieve which of the following
- Inhibition of ice nucleation
  - As light source
  - For producing human proteins
  - For degrading husk
- Q.No.34** In biotechnology, throughout the world except in case of any dispute, as per the Intellectual property rights the patent is granted to which of the following
- One who was granted patent first
  - One who has filed the patent first
  - One who published it first
  - One who is an authority in the field
- Q.No.35** How many numbers of clone would be needed for a genomic library of an organism that has genome size of  $4.6 \times 10^6$  bp, with average size of 17 kb fragment inserted in to the vector and with the probability of every gene that is being represented is 95%.
- 8200
  - 820
  - 1500
  - 21000
- Q.No.36** During the conditional regulation of gene expression, one of the system is called "tet off". doxycycline is known to regulates this system Accordingly, which of the following best explains this tet off
- In absence of doxycyclin the transgene is continuously expressed
  - In absence of doxycyclin the transgene is not expressed
  - In presence of doxycycline the transgene is continuously expressed
  - In presence of doxycycline no effects occurs on transgene expression
- Q.No.37** During development of transgenic mice you were asked exploit the DNA microinjection in pronuclei. How would you ascertain that you are injecting the target gene in the male pronucleus and not the female pronucleus.
- Male pronucleus is transparent
  - Male pronucleus gets attached to cell membrane
  - Male pronucleus is smaller in size
  - Male pronucleus is larger in size
- Q.No.38** In a pulse chase experiment in yeast you used  $^{14}\text{C}$ -1 -glucose ( glucose labelled at position 1 ) as a substrate for the fermentation process, location of  $^{14}\text{C}$  in the product ethanol would be depicted as;
- At  $\text{CH}_3^{14}\text{CH}_2\text{OH}$
  - At  $^{14}\text{CH}_2\text{CH}_2\text{OH}$
  - None of the carbon in ethanol will be labelled as its is lost as  $^{14}\text{CO}_2$
  - At both  $^{14}\text{CH}_3^{14}\text{CH}_2\text{OH}$
- Q.No.39** Which of the following type would have greater number of bases per turn for a DNA molecule?
- Negatively supercoiled
  - Positively supercoiled
  - DNA with Hoogstein base pairing
  - The number of bases per turn do not change

- Q.No.40** During one of the reversible reaction given below  
 $A \rightleftharpoons B$ , the  $K_{eq}$  was found to be 5, suppose you used 18 times more of A, How many A and B would be present when the  $K_{eq}$  is reached.
- 3 of A and 15 of B
  - 15 of A 3 of B
  - 18 of A 90 of B
  - 23 of A and 13 of B
- Q.No.41** The production of Biogas is retrieved from
- Aerobic breakdown of biomass
  - Anaerobic breakdown of biomass
  - Together by aerobic and anaerobic breakdown of biomass
  - By degradation of biomass by leeches
- Q.No.42** During substrate level phosphorylation which of the following event takes place
- ATP is used to hydrolyse the substrate
  - ATP is produced from Mitochondrial  $F_0F_1$  ATPase
  - ATP is produced from high energy substrate
  - ATP is produced from GTP
- Q.No.43** As biotechnologist, your opinion was sort to identify which of the following is not an enzyme inhibitor.
- Flouride
  - Iodine
  - Methotrexate
  - Penicilline
- Q.No.44** What components constitute Freund's complete adjuvant
- Inactivated and dried mycobacteria in mineral oil
  - Activated and lyophilized mycobacteria in water
  - Plain water in mineral oil
  - Specific antigen in serum
- Q.No.45** During labelling experiment the DNA was labelled with  $^3H$  thymidine while the protein was labelled with  $^{14}C$  lysine. The spectrophotometric analysis enabled differentiating the two biomolecules. Based on radioactivity measurement how would you reassure that both these biomolecules were radiolabelled.
- These emitted first Gamma particles followed by beta particles
  - These emitted Beta particles and Gamma particles
  - Both emitted Gamma particles only
  - Both emitted Beta Particles only
- Q.No.46** You purified a globular protein to homogeneity. Upon characterization you observed that the non-polar amino acids aggregate in order to shield them away from water. Based on this characterization it is inferred that this outcome was result of establishing which type of interactive forces among these amino acids
- Covalent bonds
  - Hydrogen bonds
  - Hydrophobic interactions
  - Electrostatic interactions

**Q.No.47** All the following are indicative of contamination of animal cell in culture, except

- A) Hyphae in culture
- B) Change of pH
- C) Turbidity of culture
- D) Increase in the confluence of monolayer

**Q.No.48** Suicide inhibitor has been exploited as important biobased drug in certain disease states, these inhibitors are based on which of the following inhibition;

- A) Reversible Competitive inhibition
- B) Reversible Non-competitive inhibition
- C) Irreversible inhibition
- D) Uncompetitive inhibition

**Q.No.49** During the mass production of target "X". different constituents were upscaled in a fermentor. You were asked to check for the yield coefficient for this process. Which of the following would you report;

- A) Conversion efficiency of a substrate into product
- B) Total product production
- C) Ratio of substrate consumed to catalyst used
- D) Ratio of product produced to catalyst used

**Q.No.50** Protein with secondary structure was treated with urea, thermodynamically which of the following event would take place

- A) Large increase in the entropy
- B) No change in the entropy
- C) Very small change in the entropy
- D) Proteins being macromolecules would coagulate leading to decrease in entropy

X-X-X